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This report was prepared as part of the Ohio River Basin Energy Study (ORBES), a multidisciplinary policy research program supported by the Environmental Protection Agency. The objectives of the analysis are to identify American social values and to examine their relationship to energy production and use within the framework of ORBES. The major topics are (1) an overview of social values and energy policy, (2) an identification of values implicit in the ORBES scenarios, (3) a secondary analysis of survey data, and (4) a discussion of variations in social values by social and demographic characteristics.

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OHIO RIVER BASIN ENERGY STUDY: SOCIAL VALUES AND ENERGY POLICY

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152

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FOREWORD

The Ohio River Basin Energy Study (ORBES) is an interdisciplinary, multi-university inquiry into the environmental, economic, and social impacts of energy facility development in a major portion of the Ohio River Basin. The study was initiated by the U.S. Environmental Protection Agency in 1976 in response to a directive from the U.S. Senate Appropriations Committee.

Most of the ORBES research was conducted by a group of faculty members at the University of Illinois, Indiana University, the University of Kentucky, the University of Louisville, The Ohio State University, the University of Pittsburgh, Purdue University, and West Virginia University. In a few instances, the necessary expertise was found at other universities or independent research organizations.

This report is one of a series produced in support of the overall ORBES assessment. For a summary of the entire study, see Ohio River Basin Energy Study (ORBES): Main Report, by the ORBES Core Team, also being published by the U.S. Environmental Protection Agency.

PREFACE

Social change is often accompanied by conflicts in values. Energy availability in the future is almost certain to bring about social changes, whether substantial efforts are made to maintain or increase energy supplies or whether conservation becomes the policy of the era. In the case either of the development of new energy resources or of increased conservation, the associated changes are likely to produce conflicts in values.

The objectives of this analysis are to identify major American social values and to examine their relationship to energy production and use within the framework of the Ohio River Basic Energy Study (ORBES). The impetus for ORBES was the increasing number of electric power plants in the Ohio River valley. The analysis of social values here is not restricted narrowly to power plants, but considers broader issues of energy conservation, production and use.

The major limitation of this study is that ORBES, as a technology assessment, only used existing data. This meant that there was unevenness in the data available across the six states in the study region since there is no systematic collection of data on social values. It also meant that there was unevenness in the data available on the various values; for some there was considerable data, for others there was relatively little.

The most difficult aspect of the analysis was the interpretation of changes in values over time. In general, the literature indicates that values are relatively stable over time, but not rigidly unchanging. However, it is not clear how values will come into play in the interpretation of policy issues like energy as new knowledge becomes available on the issue in the future. New knowledge may lead to a re-interpretation of the issue. Additionally, the defining of issues implicitly or explicitly in value terms is part of the process of mobilization of support; this is part of the political process and is used by many organizations, e.g., corporations and public interest groups. This process can be expected to continue and to influence how energy issues are interpreted in the future.

CONTENTS

Preface v

Tables viii

Acknowledgments xii

1. Social Values and Energy Policy 1
2. Social Values within the ORBES Scenarios 5
3. Social Values and Energy Policy: Findings from Surveys . . . 14
4. Variations in Social Values by Social and Demographic Characteristics 38
5. Conclusions 125

References 131

Appendix A: Brief Description of Surveys Used for Secondary Data Analysis 137

Glossary 139

TABLES

Number		Page
1	Sources by values most relevant to the ORBES scenarios . . .	7
2	Basic description of selected ORBES scenarios	8
3	Social values that are predominantly emphasized in selected ORBES scenarios	11
4	Indicators of conservation/preservation as a social value .	18
5	Indicators of economic benefit as a social value	22
6	Indicators of equity as a social value	24
7	Indicators of freedom and governmental activity as a social value	25
8	Indicators of health and safety as a social value	28
9	Indicators of material comfort as a social value	31
10	Indicators of nationalism as a social value	33
11	Indicators of progress/growth as a social value	34
12	Indicators of property as a social value	35
13	Indicators of science as a social value	36
14	Now is the time to conserve our resources for future generations, in percent	40
15	Importance of conserving energy in making quality of life better, in percent	41
16	Perceived importance of slowing down the use of coal, oil and gas	43
17	Percent who prefer selected ways of cutting down fuel consumption around the house	46

TABLES (continued)

Number Page

18 Percent who reported they have reduced energy use in selected ways, nationally 49

19 Percent who reported they have reduced energy use in selected ways, in Illinois 51

20 Willingness to pay to reduce air pollution, in percent . . 55

21 Acceptability of rationing amount of fuel and let each family decide where they will cut down, in percent 57

22 Percent who say government regulations should make people and industries use less fuel and make industries stop polluting, in Kentucky 59

23 Acceptability of use of taxes to reduce fuel consumption, in percent 61

24 Willingness to pay $200 more per year to reduce illness caused by air pollution 65

25 Percent who think it is more important to have strict air pollution control laws or to allow coal to be used to make cheap electricity 66

26 Perceived seriousness of air pollution in this country, in percent 67

27 Acceptability of air pollution vs. economic benefits . . . 69

28 Percent who support developing new energy sources, and returning more coal severance tax to producing counties in Kentucky 72

29 Acceptability of a nuclear power plant being located in this area, if electric rates would not go up, in percent . 74

30 Willingness of Illinois residents for taxes to be spent for new industry and assisting low income people with heating bills, in percent 75

31 Rating of government that looks after the less fortunate as a factor in making America great, in percent 77

32 Percent who feel voluntary cut back on energy will be enough vs. need government to take stronger measures . . . 79

TABLES (continued)

Number / Page

33 Acceptability of environmental regulations closing a plant vs. making an exception to the regulations, in percent 80

34 Acceptability of a tax incentive to oil companies to increase production 82

35 Willingness to remove price regulations and rely on free competition to determine what the price of energy will be, in percent 86

36 Acceptability of passing and enforcing laws to save energy vs. people voluntarily saving enough energy, in percent 88

37 Perceived importance of strict laws regulating strip mining or getting coal at cheapest possible cost, in percent 90

38 Preference for state and local government to spend more or less tax money for attracting and developing industry in Kentucky, in percent 92

39 Preference for state and local government to spend more or less tax money to clean up air and water pollution in Kentucky, in percent 94

40 Acceptability of strip mining in Kentucky, in percent responding "yes" 96

41 Percent who favor specified governmental actions with regard to businesses 98

42 Importance of selected actions for improving quality of life, in percent 100

43 Percent who favor or oppose cutting federal spending for health and for product safety 105

44 Perceived safety of nuclear power plants that produce electric power, in percent 106

45 Percent who favor or oppose a nuclear power plant in their area if it was reported as unsafe by government agencies, in percent 108

TABLES (continued)

Number Page

46 Percent who favor or oppose a nuclear power plant in their area if a special report of scientists said it was safe, in percent 109

47 Acceptability of increasing the number of nuclear generators of electricity in Illinois, in percent 111

48 Percent who agree or disagree that power plants pollute the air 113

49 Percent willing to reduce energy consumption in selected ways in Kentucky 115

50 Willingness to reduce air pollution by turning off electricity 5 hours a day or paying $30 more a year, in percent 117

51 Rating of allowing the mass of people to share a high standard of living as a factor in making American great, in percent 119

52 Percent who would like to see the United States become independent of all foreign sources of energy 120

53 Acceptability of importing more oil from foreign countries, in percent 121

54 Percent who favor or oppose a nuclear power plant in their area if it would mean new industry and more jobs 124

A-1 Dates and sample sizes for surveys used in secondary analyses of data 138

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CHAPTER 1

SOCIAL VALUES AND ENERGY POLICY

INTRODUCTION

Energy has been a major topic of debate in the last few years. Some persons have advocated major efforts to develop new energy supplies, others have recommended conservation as the most satisfactory and immediate approach to the problem. Some of the issues in the debate have been technical, such as procedures for producing synthetic fules; some have been economic, such as the comparative costs of alternative fuels. Other issues have centered on social values, such as equity. The equity issue is tied primarily to the price of energy: if there is a large increase in the price of energy, should there be a means to compensate persons with low incomes who would be most affected? Basically, all energy policy issues similarly involve social values: should conservation be the central component of energy policy; should a major research and development program be initiated for solar or synthetic fuels technology? Values are inherently a part of such policy decisions. The purposes of this report are (1) to identify major American social values, (2) to relate those values to the policies in the various scenarios of the Ohio River Basin Energy Study, (3) to examine available survey data for indicators of values as applied to energy issues to show the strength with which values are held, and (4) to examine social and demographic sources of variations in these values.

SOCIAL VALUES AND ENERGY POLICY

The recent concern about energy and energy policy has resulted not simply from a concern over future uses and supplies of primary fuels, but also from a recognition of the fundamental impact that a major change in energy availability would have on the prevailing life style in American society. The energy issues vary from dependence on foreign oil to increased regulation of coal-fired electric generating plants to public conflict over the safety of nuclear generating plants and the storage of their wastes.

Energy issues are of such importance because of the linkages to many dominant social values such as conservation-preservation, economic benefit, freedom vs. governmental activity, health-safety and material comfort, for example. While values themselves are usually thought of as abstract concepts, they are manifested in more concrete phenomena, like temperature settings in homes and businesses, which may involve conservation, economic benefit, governmental regulation, health and material comfort or pollutant emissions with economic benefit, governmental activity and health as relevant values. Social values are relatively enduring conceptions of the preferred or desirable, and influence both the means and ends of human action.

In many instances a person must make choices that involve a conflict or tradeoff among values. Air conditioning a home may be costly, that is, not have a positive economic benefit, but it increases material comfort and may increase health and safety. Further, the distinction between means and ends may be useful for abstract analysis but may be difficult to maintain clearly in a-l applied cases. "Progress," for example, is a major value, but is progress or manifestations of it an end for its own sake or a means to other ends such as health or material comfort? Many specific acts must be recognized as being both ends for some purposes and means for other purposes.

Energy policy is a result of a process through which values are expressed. Indeed, Easton says: "A policy ... consists of a web of decisions and actions that allocate values." (1) In some instances there may be broad support for a policy, in other cases there may be great disagreement. That is, in the first instance the values of broad segments of society provide a basis for consensus on the policy, which may be a function of both the policy and of the relevant values; while in the second instance value conflict arises when the policy has different impacts on the values of different segments of society.

The Ohio River Basin Energy Study (ORBES) originated with a group of citizens who felt there was such a conflict in values between their perception of an adequate quality of life and that which they felt would occur if there were continued development of electrical generating plants along the Ohio River. This is described briefly in the ORBES Work Plan. "Concern about the economic, social, and environmental consequences of energy development is growing throughout the Ohio River Basin, but shortly after the end of the oil embargo a variety of social forces focused attention on the 100-mile reach of the river between Louisville, Kentucky and Cincinnati, Ohio. By the fall of 1974, area citizens began expressing concern about public utility proposals to locate coal-fired power plants along this stretch of the river. Announcement a few months later by an Indiana utility that it was planning a nuclear plant in the same area intensified citizens' concerns .... In order to develop adequate information about the competing concerns of area citizens and utilities, in 1975 the Senate Appropriations Committee directed the U.S. Environmental Protection Agency (EPA) to conduct ... an assessment of the potential environmental, social and economic impacts of the proposed concentration of power plants in the lower Ohio River Basin. This study should be comprehensive in scope, investigating the impacts from air, water, and solid residues on the natural environment and residents of the region. This study should also take into account the availability of coal and other energy sources in the region." (2)

TECHNOLOGY ASSESSMENT

There are a variety of definitions of technology assessment (3,4). In general most definitions approximate that given by Coates: "Technology assessment is the name for a class of policy studies which attempt to look at the widest possible scope of impacts in society of the introduction of a new technology or the extension of an established technology in new and different ways. Its goal is to inform the policy process by putting before the decisionmaker an analyzed set of options, alternatives and consequences." (5) It generally takes a holistic view of problems, examining them through time. In this respect it is like systems analysis and other forms of futures research (6).

The stated purposes of ORBES correspond to this definition: "The overall purposes of ...(ORBES) are (1) to identify and evaluate the potential consequences of various levels, rates, and patterns of future energy development in the Ohio River Basin, (2) to formulate policy alternatives that could mitigate the undesirable consequences or reinforce the desirable consequences, and (3) to summarize this information and present the results in a usable final report and in public meetings throughout the ORBES region." (7) There are a number of discussions of the limitations and problems of futures research/technology assessment (8,9,10,11,12,13). One of these limitations often is the adequacy of the data for the specific problem. That is indeed a limitation in this study since no original data were collected, and that which was available for secondary analysis was not uniform across the study region.

Values have received considerable attention in the technology assessment literature (10,14,15). The issues raised ranged from broad questions about rational planning (13,16), to methods of studying and incorporating values into technology assessments (14,17). The former issue is certainly important. However, the concern here is with the latter, incorporating values into a specific technology assessment.

ORBES has developed a series of alternative futures based on alternative energy, environmental and economic policies. None of the scenarios is intended as a prediction of the future, rather they are alternative, plausible policies that would have varying future impacts. As Berg et al. (14) and Vickers (18) indicate: "Policies are the *instrumental judgments* which arise from the complex interplay between *reality judgments* of the possible and *value judgments* of the desirable .... The policies are clearly normative, not neutral or value free." (14)

SOCIAL VALUES IN THE ORBES TECHNOLOGY ASSESSMENT

Many researchers in a number of disciplines have defined values within the particular context of their fields. These definitions vary somewhat, but there appears to be general consensus that values are conceptions of the desirable that help to guide decision making (19,20,21) and they usually contain criteria for preferences (19,21,22), providing codes or standards for conduct (19,23,24). They are believed to be general and abstract concepts (25,26) and thus, they, themselves, are not directly observable, but must be inferred from the behavior that they elicit (17). They are also thought to be enduring, stable (19,23,26), and learned (19,26). We assume these to be the defining characteristics of values in this study.

Values exist on different levels. On a personal level, some people prefer apricots to pears. However, both are generally recognized as acceptable food options. Certain options associated with the generation of electricity are viewed as not acceptable by some people. Some feel we as a nation must conserve more, others feel we must produce more electricity. It is the values that underlie these positions that are examined here. These "social values" influence policy decision, whether made by private business or government. Therein is their difference from personal values. Actions associated with personal values have little impact on others. Many actions associated with social values, as policy decision, do affect other people. They may provide more jobs, more strip mines, more electricity and more sulfur dioxide. Some see the need for electricity and jobs as paramount, others state that reductions in strip mining and pollution from sulfur dioxide are essential. Then there are others who see both sides. Clearly, this is the stuff of which debate, disagreement and even political conflict are made.

While values are abstract, they can be inferred from statements or behavior. Consequently, indicators of environmental values are evident in what people say as well as in numerous laws and regulations. The values of the latter of course, are not the values of everyone, but only the people responsible for and supportive of the law (27). Section 102(2)(b) of the National Environmental Policy Act of 1969 states that values are to be considered in environmental decision making. It specifically states that safety, health, productivity and aesthetics, all of which are values, be considered with respect to the environment. The ORBES project itself is being conducted principally because the concerned citizens behind it had a set of values (28). They, specifically, felt that certain energy developments along the Ohio River were undesirable. However, those developments can be viewed as representative actions associated with such values as growth/progress and economic benefit. Such value confrontations are not uncommon in a day and age when environmental quality is perceived by many people in different ways.

CHAPTER 2

SOCIAL VALUES WITHIN THE ORBES SCENARIOS

A central part of the ORBES technology assessment was the development of alternative scenarios, based on various environmental, economic and energy policies. The first step in the analysis of values in the ORBES technology assessment was the identification of the specific social values to be included in the study. Once this was done, the policies specified for the various alternative scenarios were examined to identify the values inherent in them. These two tasks are the subject of this chapter.

Since the issues involved in the ORBES technology assessment are very broad, potentially affecting many spheres of life, it was felt that the social values to be studied should be similarly encompassing. That is, it is expected that broad ranging issues will not be resolved solely on the basis of one set of criteria, whether they be environmental or economic or health related.

IDENTIFYING MAJOR SOCIAL VALUES

In order to achieve an understanding of social values implicit in the ORBES scenarios, major sources from several fields have been examined. "Major" sources were identified through two criteria: they discussed values in American society generally as opposed to focusing on one or two specific values; and they were cited frequently in the literature as significant works. These were not hard and fast rules, but rather they served as guidelines. It could be argued that some of the more recent sources do not meet the second criterion. Additionally, we have sought to identify what we have called social values, that is, those values that are shared, or common to a group, as distinct from evaluative components that are individually held (29,30,31).

Lists were made of all the values specified in twenty-one sources. Our concern was not that this is an exhaustive list of sources, but that it should produce a substantial degree of redundancy which indicates that the list of values is relatively complete since additional values are not being added. There is a relative degree of agreement about the importance of the specified values since each value is cited by several authors.

Several authors maintain that Americans have similar values. Warren (32) states that in general Americans value freedom, individualism, democracy, practicality, pecuniary evaluation, success, education, science, progress, happiness, humanitarianism and conformity. Quite similarly Williams (33) believes the major value orientations in America to be achievement and success, activity and work, moral orientation, humanitarian mores, efficiency and practicality, progress, material comfort, equality, freedom, external conformity, science and secular rationality, nationalism-patriotism, democracy, individual personality, and racism. Leff differs in part (34) seeing the following aspects of the dominant American value system as problem causing: (1) individualism and competition, (2) a negative view of human nature, (3) hierarchical thinking, (4) material accumulation and growth as dominant evaluative criteria, (5) a tendency to treat means as if they were ends, (6) a tendency to accept violence as reasonable, and (7) a relatively short term time orientation.

There is the problem of similarity, but not identity, in the ways various authors conceptualize values. To deal with this "values clusters" have been used, in the conceptual sense, not in the statistical sense. That is, those values have been put together under one label that have the same or similar definitions regardless of their conceptual name as used by various authors. Table 1 lists the sources and the composite list of values most relevant to the scenarios. Definitions for the values listed in Table 1 are given in the Glossary. It should be noted here that not all values specified by each author are included in Table 1. Those excluded, such as racism (33) do not appear directly relevant. The values that appear most frequently in the analysis that follows are conservation/preservation, economic benefit, efficiency, freedom/governmental activity, health/safety, individualism, material comfort, nationalism, progress/growth and science. Those values that contain two components separated by a slash, such as conservation/preservation, are treated here as a single value. This is not done to obscure the definitional differences, which should undoubtedly be retained when more refined data are available, but because for this study the similarities in definition seem to justify combining these values.

Each alternative future scenario developed by ORBES consists of a set of descriptors on technology for energy production, the degree of strictness of environmental controls, and a rate of economic growth, plus a set of policy statements on economics, energy and environment which are derived from and assumed to be consistent with the descriptors. A basic description of the selected scenarios is given in Table 2. These scenarios represent the major differences in potential policies particularly with regard to social values. The descriptors imply various social values, and each policy statement is based on one or more social values. The objective of this analysis is to identify social values which are inherent in each of these seven scenarios. Those selected represent the main variations among the scenarios. For example, scenario 4, which is omitted from this analysis, is similar to scenario 2 except that it emphasizes natural gas rather than coal. Similarly scenario 2d differs from scenario 2 only with regard to compliance with State Implementation Plans for air quality; thus, health/safety would be even less important in 2d than 2. Each policy was examined within the context of each scenario, using the social values shown in Table 1.

TABLE 1. SOURCES BY VALUES MOST RELEVANT TO THE ORBES SCENARIOS

	social value																
	Activity/Work	Aesthetics	Conservation/ Preservation	Democracy	Economic Benefit	Efficiency/ Practicality	Equality	Equity	Freedom	Governmental Activity	Health/Safety	Individualism	Material Comfort	Moral Orientation	Nationalism	Progress/Growth	Science
Andrews and Waits (27)	x	x	x	x							x		x				
Baier and Rescher (23)	x	x		x	x	x	x	x			x	x	x		x	x	
Dalkey (35)	x		x						x	x	x						
Dalkey and Rourke (36)	x				x				x	x	x	x	x				
Jessen (37)	x					x	x				x		x				
Kluckhohn (38)	x												x				
Kluckhohn (19)		x											x	x			
Leff (34)	x	x					x		x	x	x	x	x				
Lovins (39)	x		x		x	x							x				
Mering (24)							x		x					x		x	
Molitor (40)	x								x	x	x	x					
Morrison (41)								x									
Rescher (42)		x											x		x		
Rokeach (21,26)									x	x	x	x	x				
Sayre (43)	x				x	x	x		x			x	x		x		x
Segerstedt (44)							x									x	
Tolman (45)	x												x				
Warren (32)	x			x	x	x			x	x	x	x	x				x
Williams (17,33)	x	x		x		x	x		x	x		x	x	x	x	x	x

Sources: number following author's name refers to source in list of references.

TABLE 2. BASIC DESCRIPTION OF SELECTED ORBES SCENARIOS

Scenario	Fuel emphasis	Environmental regulations	Economic growth	Short descriptor
1	conventional, coal emphasis	strict	high	strict environmental regulations
2	conventional, coal emphasis	base case	high	base case environmental regulations
2c	conventional, nuclear emphasis	base case	high	nuclear emphasis
3	alternative	base case	high	alternative fuel emphasis
5	conventional, coal emphasis	base case	low	low economic growth
6	conventional, coal emphasis	base case	high (very low energy growth)	very low energy growth
7	conventional, coal emphasis	base case	high (high electrical energy growth)	high electrical energy growth

Source: Reference 46.

All explicit or implicit values expressed in the economic, environmental, and energy scenario descriptions were listed,[1] thus providing a description of the values in each policy context in the seven scenarios. For example, the energy policy statement "to decrease our dependency on imported oil" was called national independence or nationalism, which is a concept based on two sources in the literature, Baier and Rescher (23), and Williams (33). Also, "plutonium to be reprocessed under strong governmental control" was called governmental activity (32). All of the values from the analytic listing are incorporated in Table 3. Duplicate listings of a given value have been eliminated. Those values in capital letters are strongly emphasized in the scenarios; those in lower case letters are emphasized but not as strongly. The absence of a value in a scenario does not mean it is not important, but implies a third level of importance which is that the value receives no particular emphasis in the policies stated for that scenario that is different than the current situation.

Frequently the same value is shown in several scenarios, tending to make them appear to be the same. They actually are not alike; the values take on different meanings in terms of policy in the different scenarios. For example, conservation/preservation appears in scenarios 3, 5, and 6. It receives the most emphasis in scenarios 3 and 5 where it derives from the descriptors and associated policies for alternative technology and low economic growth, respectively. In scenario 6 it is listed, with less emphasis, because of the assumption of low energy growth. Similarly, governmental activity in scenario 1 is shown in part because of extensive regulatory actions associated with strict environmental controls. However, in the other scenarios governmental activity is generally directed to the development of fuel sources. Again, regulatory functions are present in the other scenarios, but "strict" regulations are not emphasized there.

In looking at which values are emphasized in each scenario, it is useful to look first at scenario 2. It has conventional technology for energy production, essentially the current environmental controls and high economic growth. Thus, it is relatively similar to an extension of present conditions to the year 2000 when compared with the other scenarios. The values identified in scenario 2 are (a) economic benefit, material comfort and progress/growth which come from policies that promote a high economic growth rate, and (b) governmental activity and nationalism especially in the area of fuel policies since one of the objectives here is to decrease dependency on imported oil.

Scenario 1 differs from scenario 2 primarily in having strict environmental controls. Both emphasize the use of coal and assume that the historic rate of economic growth will continue in the region to the year 2000. Scenario 1 requires best available technology (BAT) rather than best practicable technology (BPT) for pollution control and imposes some more stringent regulations. These regulations are aimed at increased health and safety, and thus this value is added to the list for scenario 1. Scenario 2c is similar to scenario 2 with regard to environmental regulations and economic growth assumptions. However, scenario 2c includes a substantial increase in electricity produced by nuclear power with the assumption that all new electrical generating facilities after 1985 are nuclear fueled rather than coal fired. To do this it emphasizes the development of new and improved technologies, and therefore science is listed as a value in scenario 2c. Scenario 7 is like scenario 2 with regard to environmental regulations, assumed economic growth and emphasis on coal-fired generating capacity. It differs only in assuming a higher rate of growth in the regional demand for electricity. Scenario 7 assumes approximately 4 percent annual increase in demand compared to 1.5 percent for scenario 2.

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[1] For a full description of the scenarios see ORBES Core Team, "Ohio River Basin Energy Study (ORBES): Main Report," Grant Nos. EPA R804816, R805585, R805588, R805589, R805590, R805603, R805608 and R805609 (forthcoming).

In scenario 3, the alternative technology scenario, conservation/preservation and individualism are additional values stressed. These values derive from the assumption that policies that encourage the use of alternative sources of energy will to some degree also encourage conservation/preservation and individualism. The question here is not the extent to which these values, or specific manifestations of them such as amount of energy actually conserved, are achieved. While alternative sources such as solar may produce moderate amounts of energy for some purposes by 2000, more conventional energy sources are assumed to continue to be important. The values of conservation/preservation and individualism are important for the adoption of alternative energy policies and for this analysis depend on the sense or perception that people have about alternative technologies, not on their eventual impact. Science is important for supporting research and development of alternative energy technologies.

In scenarios 5 and 6 efficiency is particularly important. Scenario 5 poses low economic growth, which is the basis for the policies from which efficiency and conservation/preservation is derived. In contrast, scenario 6 assumes high economic growth accompanied by low energy growth. Thus, efficiency in scenario 6 is aimed specifically at more efficient use of energy. Thus, scenario 6 assumes a lower rate of energy use for personal transportation than scenario 5, both of which are lower than the other scenarios.

The differences in values among the scenarios described here are those implied by the scenario descriptors and policies. Thus each scenario can be thought about in terms of which social values would be emphasized if it were to become national policy. The major differences involve the values conservation/preservation, efficiency, health/safety, individualism, material comfort and science.

It was noted earlier that one of the problems of American values is a tendency to treat means as if they were ends (34). It might be asked here to what extent are governmental activity and science (or other values) ends in and of themselves; or, are they means to other ends, such as material comfort, when applied to energy policy. However, given the pluralistic nature of American society it may be unreasonable to expect a high degree of consensus on such issues. Thus, it may be assumed that there could be

TABLE 3. SOCIAL VALUES THAT ARE PREDOMINANTLY EMPHASIZED IN SELECTED ORBES SCENARIOS*

Scenario 1 Conventional Technology Strict Controls High Growth	Scenario 2 Conventional Technology Lax Controls High Growth	Scenario 2c Conventional Technology Lax Controls High Growth	Scenario 3 Alternative Technology Lax Controls High Growth
			CONSERVATION/ PRESERVATION
ECONOMIC BENEFIT	ECONOMIC BENEFIT	ECONOMIC BENEFIT	ECONOMIC BENEFIT
GOVERNMENTAL ACTIVITY	GOVERNMENTAL ACTIVITY	GOVERNMENTAL ACTIVITY	GOVERNMENTAL ACTIVITY
HEALTH/SAFETY			
			INDIVIDUALISM
MATERIAL COMFORT	MATERIAL COMFORT	MATERIAL COMFORT	
NATIONALISM	NATIONALISM	NATIONALISM	NATIONALISM
PROGRESS/GROWTH	PROGRESS/GROWTH	PROGRESS/GROWTH	PROGRESS/GROWTH
		SCIENCE	SCIENCE

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*Those social values appearing in capital letters are strongly emphasized in the scenario descriptors and/or scenario policies. Those in lower case letters are emphasized, but not as strongly. The absence of a value in a given scenario does not mean that the value is unimportant; it only means that it is not emphasized as much as other values in that particular scenario.

Table 3 (continued)*

Scenario 5 Conventional Technology Lax Controls Low Growth	Scenario 6 Conventional Technology Lax Controls High Growth (Low Energy Growth)	Scenario 7 Conventional Technology Lax Controls High Growth (High Energy Growth)
CONSERVATION/ PRESERVATION	Conservation/ Preservation	
	Economic Benefit	ECONOMIC BENEFIT
EFFICIENCY	EFFICIENCY	
GOVERNMENTAL ACTIVITY	GOVERNMENTAL ACTIVITY	GOVERNMENTAL ACTIVITY
		MATERIAL COMFORT
NATIONALISM	NATIONALISM	NATIONALISM
	Progress/Growth	PROGRESS/GROWTH

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*Those social values appearing in capital letters are strongly emphasized in the scenario descriptors and/or scenario policies. Those in lower case letters are emphasized, but not as strongly. The absence of a value in a given scenario does not mean that the value is unimportant; it only means that it is not emphasized as much as other values in that particular scenario.

disagreements and even political conflict among various parties over some policy issues which would result from such differences in values. However, it seems most probable that the outcome of such disagreements would be a change in emphasis, not the elimination from society of certain values (47).

It should also be noted again that this analysis focuses on policies, not impacts. The outcome of adopting a set of policies may or may not be consistent with the values held by the advocates of the policy. Additionally, the scenarios themselves are made up of different combinations of policies that represent potentially conflicting values.

Lastly, because this analysis is dependent on the scenario descriptors and policies, some values do not show up in Table 3. Equity is most notable in this regard. It is assumed in ORBES that this is a welfare policy issue. All of the scenarios assume at least a doubling of real energy prices by 2000 (48). Consequently, the material comfort specified for some scenarios might not be achieved for some segments of the population due to increased fuel prices, unless the equity issue were addressed through welfare policy.

CHAPTER 3

SOCIAL VALUES AND ENERGY POLICY: FINDINGS FROM SURVEYS

ACQUISITION OF THE DATA

The next step in the analysis was to determine how strongly these values identified in Chapter 2 were held with regard to energy policy. That is, the objectives here were to determine if there was strong consensus with a substantial majority of people expressing a similar position, if this pattern were consistent across various indicators of a given social value, and if the commitment to the position changed when values were posed against one another. This approach approximates Williams' criteria of extensiveness and intensity for dominant values (33).

To accomplish these objectives it was necessary to locate existing sources of data because no original data were to be collected as part of the technology assessment. Additionally data had to cover the ORBES region broadly; they could not be from one or just a few communities. This meant, essentially, that social survey data would be used because of the lack of other systematic information related to values for the region. The social survey method is a frequent and accepted method of obtaining data on values, although it has limitations and it would be desirable to supplement it with other data when possible. Pertinent statewide studies were located for Illinois (49), Indiana (50,51), Kentucky (52), Ohio (53) and West Virginia (54). In addition, three brief reports with data for five of the 15 ORBES region counties in southwestern Pennsylvania (55,56,57) were obtained.

These studies varied considerably in the amount of data they contained that was relevant to the present objectives. Therefore, it was decided to include national data in the analysis where it was relevant to the ORBES issues. This has the advantage of providing some comparisons of ORBES region data with national data. This is particularly important in that not all energy policy issues of interest to the ORBES region will be decided within the region, many of them will be decided at the national level. Thus, it would be useful to know if regional values differ from national values on these issues. The national studies included an Opinion Research Corporation report on "Public Attitudes Toward Environmental Tradeoffs" (58), the series of studies done for the Federal Energy Administration (FEA) from 1974 to 1976 (59), and five Louis Harris surveys from 1974 to 1976 (60,61,62,63,64).

Most of the analysis in this and the following chapter is based on secondary analysis of data from Kentucky, Illinois, twelve of the FEA surveys and the five Harris surveys. These were the studies with the most relevant data for this project. These secondary analyses were done specifically for this project. It was the relevance of these data plus their availability for secondary analysis which were determining factors in their selection. It would be desirable to have more recent data, but they were not available for such secondary analysis.

Not all counties within each of the states were in the study region, except for Kentucky where all counties were in the study area. It would have been preferable to have data from only those counties that were designated as the ORBES region, which is the Ohio River watershed. This would be preferable because there may be differences in values between those counties within the ORBES region and those outside of it. It was possible in Illinois to examine data for only those counties within the ORBES region, using secondary data analysis, that is, the processing of previously collected data specifically for this study. All Kentucky counties are in the ORBES region, so this was not a factor there. The data reported for Indiana, Ohio, West Virginia and Pennsylvania are from published reports. For Indiana, Ohio and West Virginia those reports are for the whole state. This poses a modest problem in Indiana and Ohio where a substantial part of the population in each state lives in the northern tiers of counties, outside of the ORBES region. In West Virginia, this should be a minor matter since only seven counties are outside of the ORBES region. For Pennsylvania, the reports cited contain data for only five of the 15 counties in the ORBES region; Allegheny County, where Pittsburg is located, is not one of these five counties. The sample sizes for those surveys in the secondary analysis are reported in Appendix Table A-1.

The selection of data from the various surveys involved identifying questions linked to one or more of the social values discussed in Chapter 2 with an energy policy issue approrpiate to ORBES. The validity of the indicators selected admittedly is based on the investigators' judgment in applying the definitions of the values to the manifest content of the questions. This approach is often referred to as fact or content validity. Selecting questions relevant to ORBES meant that questions on many other energy policy issues, gasoline for transportation for example, were omitted. A broader range of energy attitude studies are reviewed in Farhar (65).

It should be kept in mind that people may not always appear consistent in responding to questions about values. There may be a number of reasons for this, not the least of which is that they may have mutually exclusive goals that may be in conflict to some extent. Additionally, people's actions may not be wholly consistent with their answers to surveys. They may express a willingness to conserve energy but not consistently do so. Finally, it must be recognized that circumstances in regard to energy have changed since these data were collected, and that these changes would be expected to produce somewhat different responses to the same survey questions if they were asked today. However, such current data were not collected as part of the ORBES project.

FINDINGS

The major findings presented here are about the values conservation/preservation, economic benefit, equity, governmental activity/freedom, health/safety, material comfort and progress/growth. The majority of issues concerning alternative future energy options appears to involve these values. These are also the values for which more relevant information was available. Less data that were pertinent to ORBES were available on nationalism, science and property. Each of these values is discussed below, drawing upon these previous studies, and indicating their relationship to energy policy. Social and demographic sources of variation are discussed in Chapter 4.

Conservation/Preservation

In recent years, conservation/preservation has been emphasized as an important value consideration in a nation concerned about dwindling resources and an uncertain supply of energy. Very broadly, this value implies the desire to preserve or use at a moderate rate, important natural and cultural resources. With respect to energy, the implication is "do more with less." In other words, the objective is to use more energy-efficient technologies to produce the same output of goods and services or simply to produce or use less energy, reflecting a change in lifestyles (39).

Several indicators are presented to show the importance of conservation/preservation as a value. Some indicators are broad, general questions about how important people feel it is to conserve energy now and for the future. Others ask about quite specific actions that people could take to conserve energy, such as installing insulation or lowering the thermostat. The text of questions and responses from the secondary analysis of data are shown in Table 4. Data from reports have the sources cited.

A majority of people favor conserving natural resources and conserving energy resources in the ORBES states and across the nation. For example, in a West Virginia study 87 percent of the respondents agreed that "Americans are using too much energy, now is the time to conserve our energy resources for future generations" (54). Similarly in the FEA national surveys, 80 percent agreed "... that now is the time to cut back on buying things and conserve our resources for future generations."[1]

Support for conservation/preservation is also shown in several specific ways. The majority of Kentuckians support recycling (91 percent), traveling less (88 percent), and turning down the heat in winter (86 percent) (66). People in Illinois favor improving home insulation (77 percent) and using fewer electrical appliances (61 percent) as shown in Table 4. Several national studies indicated a similar degree of willingness to engage in several specific conservation practices.

The importance of conservation/preservation is also apparent in support shown for several governmental policies. For example, a majority of Kentucky respondents favored stricter regulations requiring that industries use less fuel (71 percent), and that they be made to pollute less even though products may cost more (85 percent). However, there was less support for conservation policies directed at people, e.g., only 47 percent favored regulations to make sure "people use less fuel." In addition, a majority in both state and national studies favor maintaining or increasing funds for conservation and environmental protection.

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[1] Percentages are reported only for substantive responses; no responses, "don't know" or "not sure" responses generally were less than 10 percent, and seldom exceeded 15 percent.

However, the complexity of values and the inconsistencies that sometimes result is apparent through the tradeoffs people make between values. Comparing, for example, preservation and governmental activity, the majority favor offering tax rebates to people who install extra insulation and storm windows (about 75 percent) on the one hand while on the other hand the majority opposes a special tax that would make it more expensive to use energy (76 percent--see Table 5), which could reduce consumption. In the first instance government activity would promote conservation through a policy that would be economically beneficial to consumers while in the second it forces a choice between paying more or using less. This inconclusiveness in public views on policy is also seen in Kentucky where a small majority (53 percent) felt there should not be regulations to make sure people used less fuel, while 47 percent, almost as many, felt there should be such regulations.

It is clear that there are limitations to the overall importance of this value, as is true of other values. The majority have not engaged in some conserving practices. For instance, 58 percent indicate they have not used lower wattage light bulbs, 56 percent have not used electrical appliances less often, 72 percent have not improved home insulation, 81 percent have not postponed or cancelled the purchase of an electrical appliance, and only 31 percent feel it is very important for the country to slow down in its use of coal (an additional 42 percent feel it somewhat important).

Overall, the majority tend to support the general concept of conservation/preservation by indicating a willingness to act in ways consistent with conserving energy, with some exceptions. Additionally, conservation/preservation appears to be an important value even when it conflicts with governmental activity. However, people tended to be divided in their position toward this value when their personal freedom, material comfort, or economic benefit were seriously threatened.

Economic benefit

Economic benefit generally refers to the tendency to evaluate things and people in monetary terms (32). While it may sometimes imply a comparison of benefits to costs, the emphasis here is on how people generally view monetary costs. Such comparative analysis is not always explicitly apparent. However, most of the indicators do consist of tradeoff statements; that is, they were questions in which people were asked to indicate preferences that implied a choice between economic benefit and another value, such as conservation/preservation. The questions and responses from secondary analysis are shown in Table 5.

In general, persons tend to favor minimal costs. For instance, nationally, over 75 percent favor a nuclear plant in their area if electrical power rates will not go up for many years. Also, 76 percent oppose adding a special tax that would make it more expensive to use energy. However, most

TABLE 4. INDICATORS OF CONSERVATION/PRESERVATION AS A SOCIAL VALUE

		Nov. 1974	Dec. 1974	Feb. 1978
Some people have suggested that Americans are using up too much of our country's natural resources, and that now is the time to cut back on buying things and conserve our resources for future generations. Do you agree or disagree with this idea?†	Agree	80%	80%	
	Disagree	20	20	
	Total	100%	100%	
Below is a list of ways to conserve energy and protect the environment. Which of these items are you presently doing?††				
Turn down the heat to 68 in winter	Yes			70%
	No			30
	Total			100%
Use air conditioning less often in summer	Yes			82%
	No			18
	Total			100%
Live in a small house or apartment	Yes			54%
	No			46
	Total			100%
Improve home insulation	Yes			77%
	No			23
	Total			100%
Use fewer electrical household applicances	Yes			61%
	No			39
	Total			100%
Now, about ways of cutting down on your fuel consumption around the house. Would you tell me whether each of the following is or is not a way you prefer to cut down on fuel consumption? †				

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† Secondary analysis of data from FEA, reference 59.
†† Secondary analysis of data from Illinois, reference 49.

TABLE 4 (continued)

		March 1976	April 1976
Install weather stripping and caulking around all windows and doors	Prefer	95%	94%
	Don't prefer	5	6
	Total	100%	100%
Buy insulation for attic, storm windows or doors	Prefer	94%	94%
	Don't prefer	6	6
	Total	100%	100%
Set the thermostat no higher than 68 in the daytime and no higher than 60 at night	Prefer	60%	68%
	Don't prefer	40	32
	Total	100%	100%
Buy a control that automatically turns thermostat up or down at whatever time you set	Prefer	51%	52%
	Don't prefer	49	48
	Total	100%	100%
Buy detergent that allows you to clean clothes in cold or warm water	Prefer	84%	88%
	Don't prefer	16	12
	Total	100%	100%
In summertime set the air conditioning thermostat no lower than 78	Prefer	77%	75%
	Don't prefer	23	25
	Total	100%	100%
Have your furnace serviced once a year	Prefer	89%	92%
	Don't prefer	11	8
	Total	100%	100%

Here is a list of important issues which you and other Kentuckians might have talked about. We would like your opinion about each issue.†††

		Sept. 1975
Should there be stricter regulations to make sure industries use less fuel?	Yes	71%
	No	29
	Total	100%
Should there be regulations to make sure people use less fuel?	Yes	47%
	No	53
	Total	100%
Should government make industries stop polluting air and water even if this makes products a little more expensive?	Yes	85%
	No	15
	Total	100%

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††† Secondary analysis of data from Kentucky, reference 56.

TABLE 4 (continued)

There are a number of things the government can do to get people to cut down on how much gas, oil and electricity they use. Would you tell me which of the following you favor and which you oppose?

		March 1976	April 1976
Offer tax rebates to people who install extra insulation in their homes, buy storm windows and other things that cut down on energy use.†	Favor	75%	78%
	Oppose	26	22
	Total	101%*	100%

In the past few months have you ... or not? ††††

		Oct. 1975
Changed temperature settings in your home	Have	66%
	Have not	34
	Total	100%
Used fewer lights	Have	73%
	Have not	27
	Total	100%
Used lower wattage light bulbs	Have	42%
	Have not	58
	Total	100%
Used electric appliances less often	Have	44%
	Have not	56
	Total	100%
Watched TV less	Have	30%
	Have not	70
	Total	100%
Improved home insulation	Have	28%
	Have not	72
	Total	100%
Postponed/cancelled purchase of an electrical appliance	Have	19%
	Have not	81
	Total	100%

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† Secondary analysis of data from FEA, reference 59.

* Percentages do not add to 100% due to rounding error.

†††† Secondary analysis of data from Louis Harris and Associates, reference 62.

TABLE 4 (continued)

		Sept. 1976		
		coal	oil	gas
How important do you feel it is that the country slow down in its use of natural resources such as: (coal, oil, gas)	Very important	31%	56%	56%
	Somewhat important	42	33	32
	Not important	27	11	12
	Total	100%	100%	100%

of the state and national data involves tradeoff situations where respondents in many instances indicate that they are willing to endure certain costs when the choice is posed against such values as governmental activity, health/safety and conservation/preservation.

For instance, in Kentucky there was strong support in favor of governmental spending for developing new energy (85 percent feel government should spend more), and for governmental control of industrial pollution even if products cost a little more (85 percent in favor--see Table 4), both of which result in increased consumer costs.

A national study by the Opinion Research Corporation examined various aspects of tradeoffs between environmental protection and economic benefit. This study found that a majority (60 percent) thought it was more important to pay higher prices to protect the environment than to pay lower prices but have pollution (21 percent). However, people were more evenly divided on (1) having pollution control devices on cars (48 percent) vs. lower car prices (38 percent), (2) having strip mine regulations (43 percent) vs. keeping the price of electricity lower (41 percent) and (3) on the importance of cleaning up the environment (43 percent) vs. closing down some old plants and causing some unemployment (44 percent) (58). Considerable division in opinion was also found in the Federal Energy Administration data on (1) strict laws regulating strip mining being more important than getting coal at cheapest possible cost, (2) allowing coal to be used to make cheap electricity being more important than having strict air pollution control laws and (3) favoring removing price regulations and relying on free competition to determine what the price of energy will be.

Frequently policy issues are posed one against the other, such as jobs vs. environmental quality. This implies that people make choices solely on the basis of a single underlying value, that is either jobs (economic benefit) or environmental quality (conservation/preservation). These data imply that choices are not made solely on such a single social value basis. This is most evident in response to another question in the Opinion Research Corporation survey, which showed there was strong agreement (95 percent) on achieving a balance between cleaning up the environment and the need to keep people working (58).

TABLE 5. INDICATORS OF ECONOMIC BENEFIT AS A SOCIAL VALUE

		March 1975	July 1976
If a nuclear power plant were located in this area, would you favor or oppose it if it meant that electric power rates would not be going up for many years?†	Favor	83%	76%
	Oppose	17	24
	Total	100%	100%

There are a number of things the government can do to get people to cut down on how much gas, oil and electricity they use. Would you tell me which of the following you favor ... and oppose ...††

		March 1976	April 1976
Adding a special tax that would make it more expensive to use energy	Favor	24%	23%
	Oppose	76	77
	Total	100%	100%
Remove price regulations and rely on free competition to determine what the price of energy will be	Favor	56%	54%
	Oppose	45	46
	Total	101%*	100%

		Sept. 1975
Should (Kentucky) state government spend more money to develop new sources of energy?†††	Yes	85%
	No	15
	Total	100%

		Oct. 74	Nov. 74	Dec. 74
Which is more important in your judgement ... strict laws requireing strip mining or getting coal at the cheapest possible cost?††	Regulate mining	65%	64%	56%
	Cheap coal	35	36	44
	Total	100%	100%	100%

		Aug. 1975
America's cheapest energy source is coal, but burning coal to make electricity causes air pollution. At this time, do you think it is more important to have strict air pollution control laws or to allow coal to be used to make cheap electricity?††	Strict laws	41%
	Cheaper coal	51
	Other	8
	Total	100%

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† Secondary analysis of data from Louis Harris and Associates, references 61 and 63.

†† Secondary analysis of data from FEA, reference 59.

††† Secondary analysis of data from Kentucky, reference 52.

* Percentages do not add to 100% due to rounding error.

While these data indicate the importance of economic benefit as a value, they clearly indicate that it is not the single criterion people use for making policy choices. That is, other values such as conservation/preservation must also be considered seriously. Although specific groups or segments of society may have strong preferences for a specific policy outcome, these data indicate that the population at large strives to reach a balance between this value and other values on such policy issues.

Equity

Equity stresses the degree of fairness and social justice associated with the distribution of costs and benefits (41). The implication is that some segments of society, notably the poor and the elderly, often pay at a higher rate than the affluent for essentials like energy and food, and that rapidly increasing prices take away a larger share of the income of the poor and those on fixed incomes than of others.

There are only minimal data on equity but what there is indicates concern for those in disadvantaged situations, such as the poor or elderly. For example, in Illinois this is shown by a willingness on the part of 63 percent (see Table 6) of the people to see tax money spent to help with heating bills for low income people. A different aspect of equity is seen in Kentucky with regard to the distribution of the coal severance tax. There is strong support for the coal severance tax being returned to coal producing counties with 82 percent favoring such a policy.

In a national survey people were asked if they felt that a system of government which looks after the less fortunate was a factor in making America great. Half, 50 percent, felt it was a major factor, while 35 percent felt it was a minor factor. These data indicate that there is concern for equity, and that its inclusion in energy policy considerations is consistent with American values.

Freedom and Governmental Activity

The complexity of values is readily apparent in the preferences Americans have for freedom and for governmental activity (33). Freedom generally refers to allowing maximum choices with only limited control over what a person may do, with that control operating through group norms rather than through formal laws. In contrast, governmental activity is the intervention by government to facilitate, inhibit, or regulate certain decisions and actions through policies and regulations. Although these are sometimes treated as separate values, here they are discussed together as opposite ends of a continuum.

The importance placed on freedom is seen in the emphasis Americans place on guaranteed individual freedom, freedom to go from place to place, and free and uncontrolled news media as factors in making America great, with over 80 percent endorsing each factor as shown in Table 7. The importance of freedom is manifested in the preference of the majority for individuals to voluntarily reduce energy consumption rather than having rationing imposed. However, while the majority may oppose regulations to make sure people use less fuel (53 percent oppose in Kentucky), they favor such regulations for industries (71 percent favor in Kentucky--see Table 4).

TABLE 6. INDICATORS OF EQUITY AS A SOCIAL VALUE

Are you willing to see tax money spent for the following programs and services?†			
Help with heating bills for low income people		Feb. 1978	
	Yes	63%	
	No	37	
	Total	100%	
Should more of the Coal Severance Tax money be returned to the coal producing countries?††		Sept. 1975	
	Yes	82%	
	No	18	
	Total	100%	
Do you feel this was a major factor in making America great, a minor factor, or hardly a factor at all?†††			
A system of government that looks after the less fortunate			Oct. 1975
	Major factor		50%
	Minor factor		35
	Hardly a factor		14
	Total		99%*

† Secondary analysis of data from Illinois, reference 19.

†† Secondary analysis of data from Kentucky, reference 52.

††† Secondary analysis of data from Louis Harris and Associates, reference 62.

* Percentages do not add to 100% due to rounding error.

Studies have shown people to be quite divided with regard to the role government should play in developing or conserving energy. For example, Kentucky residents quite strongly favor (85 percent--Table 5) state government spending more money to develop new sources of energy. A majority of Ohio residents (65 percent) opposed deregulation of natural gas because it would cause unbearable increases in the cost of gas (53). In contrast, nationally, a small majority (about 55 percent--see Table 5) favor removing price regulations and letting free competition determine energy prices. A majority of Illinois residents (70 percent) oppose a coal severance tax. This is quite similar to the opposition nationally to a special tax to make energy more expensive (about 76 percent oppose--see Table 5). Nationally, there is opposition to the government taking over all utilities (81 percent), taking over utilities in serious financial trouble (59 percent), creating a government-owned oil corporation (72 percent) and creating a government-owned nuclear power company to own and run all nuclear power plants (70 percent).

TABLE 7. INDICATORS OF FREEDOM AND GOVERNMENTAL ACTIVITY AS A SOCIAL VALUE

Now here is a list of things some people think have made America great .... For each item do you feel this was a major factor in making America great, a minor factor, or hardly a factor at all?†			Oct. 1975
Living under a system of guaranteed individual freedom	Major factor		87%
	Minor factor		10
	Hardly a factor		3
	Total		100%
Giving people the chance to go freely from one place to another	Major factor		84%
	Minor factor		12
	Hardly a factor		4
	Total		100%
Having a system of free and uncontrolled news media and communication	Major factor		79%
	Minor factor		16
	Hardly a factor		6
	Total		101%*
All in all, do you feel the public's voluntary cutback on the use of energy will be enough to get us through the worst of the energy shortage, or do you think the government will have to take stronger measures?††			Feb. 1974
	Voluntary cutback enough		58%
	Need stronger government measures		42
	Total		100%
Some people say that the only was to get people to save energy is by passing and enforcing laws forcing them to do so. Others say that people will save energy voluntarily if the government explains why this is necessary. Which of these options comes closest to yours?†††		March 1976	April 1976
	Pass laws	28%	28%
	Voluntary	72	72
	Total	100%	100%

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† Secondary analysis of data from Louis Harris and Associates, reference 62.
†† Secondary analysis of data from Louis Harris and Associates, reference 60.
††† Secondary analysis of data from FEA, reference 59.
* Percentages do not add to 100% due to rounding error.

TABLE 7 (continued)

If taxes had to be increased, please circle those areas where you would be willing to accept the increase:†††††

		Feb. 1978
Coal severance tax	Yes	30%
	No	70
	Total	100%

Would you favor or oppose the federal government:††††

		March 1975
Taking over most big business	Favor	11%
	Oppose	89
	Total	100%
Creating a big business company to compete with private industry	Favor	14%
	Oppose	86
	Total	100%
Taking over all electric utilities	Favor	19%
	Oppose	81
	Total	100%
Taking over electric utilities which are in serious financial trouble	Favor	41%
	Oppose	59
	Total	100%
Creating a government-owned oil corporation	Favor	28%
	Oppose	72
	Total	100%
Creating a government-owned nuclear power company to own and run all nuclear power plants	Favor	30%
	Oppose	70
	Total	100%

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†††† Secondary analysis of data from Louis Harris and Associates, reference 61.

††††† Secondary analysis of data from Illinois, reference 49.

Support for governmental activity is strongest when it provides economic benefits directly to people (but not to industry), promotes growth, helps create equity such as helping the elderly and low income people with fuel bills, and when it promotes health and safety. Clearly, however, what some people may view as a benefit from governmental activity others may view as a restriction on their freedom.

Health/Safety

Health/safety issues have been and in all likelihood will continue to be a value area of considerable concern. This value implies giving a high priority to citizens' health, possibly giving priority to preventive medicine and devoting material and resources to ensuring good health for as many people as possible (34). Additionally, it includes a need for healthful and safe surroundings, lacking risk (27). Concern for health/safety can be seen in the recent regulations and higher costs incurred in order to insure safer, more healthful conditions for coal miners, for example.

The evidence for concern about health/safety is quite strong. A majority of Indiana residents ranked health as extremely important to their quality of life (personal communication of preliminary findings from Flora Williams, 1979). They have also indicated they did not want to depend on a neighboring community for health services (51). At the national level, a substantial majority (79 percent--see Table 8) indicate that a healthy physical environment was an important factor in making America great. In addition, a majority (74 percent) feel it is very important to enforce safe working conditions, oppose cuts in federal spending on helath (86 percent) and oppose such cuts on product safety (69 percent).

How people view nuclear power has been examined in several studies (67). In the surveys examined here about 30 percent felt that nuclear plants that produce electric power are very safe. About 45 percent felt they are somewhat safe. The remainder, about 24 percent, did not feel they were safe. In addition, substantial numbers of people express various concerns about their potential effects on health and safety, with about 75 percent seeing disposal of waste material as a major problem. Additionally, over 85 percent oppose a nuclear power plant in their area if it is reported as unsafe by the federal government.

The importance of health/safety is apparent when people are asked to choose between it and other values. Some increase in costs are acceptable to help achieve health and safety. For example, a majority (64 percent) are willing to pay $30 per year in order to cut down on air pollution caused by power plants. However, 60 percent are not particularly willing to pay $200 more per year to make a small reduction in the amount of illness caused by air pollution. Also,a slight majority (59 percent) oppose construction of new industries in their state if new plants caused more air pollution.

In summary then, it appears that a majority of the public has strong concerns about the health/safety effects of industry and power plants. Even though they favor new industry and energy sources in many instances, this is not an unqualified acceptance when there are risks to health and safety associated with such development.

TABLE 8. INDICATORS OF HEALTH AND SAFETY AS A SOCIAL VALUE

Now here is another list of things some people think have made America great. For each item, do you feel this was a major factor in making America great, a minor factor or hardly a factor at all?†

		Oct. 1975
Living in a healthy physical environment	Major factor	79%
	Minor factor	16
	Hardly a factor	4
	Total	99%*

As far as you personally are concerned, do you feel ... is very important in making the quality of life better in this country, only somewhat important or hardly important at all in making the quality of life better?††

		Sept. 1976
Making products and services safer	Very important	71%
	Somewhat important	24
	Hardly important	5
	Total	100%
Strictly enforcing safe working conditions	Very important	74%
	Somewhat important	22
	Hardly important	4
	Total	100%

Now I would like to be more specific. Would you favor or oppose a major cutback in federal government spending if that meant cutting back spending for:††

		Sept. 1976
Health	Favor	14%
	Oppose	86
	Total	100%
Product safety	Favor	31%
	Oppose	69
	Total	100%

---

† Secondary analysis of data from Louis Harris and Associates, reference 62.
†† Secondary analysis of data from Louis Harris and Associates, reference 64.
* Percentages do not add to 100% due to rounding error.

TABLE 8 (continued)

Now let me ask you about some things that some people have said are problems associated with nuclear power being used as a source of energy for electric power. Do you think ... is a major problem connected with nuclear power plants, a minor problem or hardly a problem at all?††††

		March 1975	July 1976
Giving off fumes that can pollute the air	Major problem	44%	48%
	Minor problem	31	27
	Hardly a problem	25	25
	Total	100%	100%
The escape of radioactivity into the atmosphere	Major problem	59%	63%
	Minor problem	22	21
	Hardly a problem	19	16
	Total	100%	100%
The disposal of radioactive waste materials which remain radioactive for centuries to come	Major problem	75%	77%
	Minor problem	16	16
	Hardly a problem	8	6
	Total	99%*	99%*
The chance that a nuclear power plant could melt down and release radioactive clouds that could contaminate hundreds of square miles	Major problem		52%
	Minor problem		25
	Hardly a problem		22
	Total		99%*
The chance that the escape of radioactive material can affect human life, causing deformed babies and other physical abnormalities	Major problem		63%
	Minor problem		21
	Hardly a problem		16
	Total		100%

		March 1975	July 1976
All in all, from what you have heard or read, how safe do you think nuclear power plants that produce electricity are - very safe, somewhat safe or not safe at all?†††	very safe	31%	29%
	somewhat safe	47	44
	not so safe	15	18
	dangerous	7	9
	Total	100%	100%

---

†††Secondary analysis of data from Louis Harris and Associates references 62 and 63.

††††Secondary analysis of data from Louis Harris and Associates reference 63.

*Percentages based on less than 50 cases.

TABLE 8 (continued)

If a nuclear power plant were located in this area would you favor or oppose it if .... †††

		March 1975	July 1976
It were to be reported as unsafe by federal government regulatory agencies	Favor	14%	9%
	Oppose	86	91
	Total	100%	100%

		Aug. 1975
Would you be willing to pay an additional $30 a year on your electric bill in order to cut down air pollution caused by power plants?†††††	Yes	64%
	No	36
	Total	100%

		Aug. 1975
How willing would you be to pay $200 per year more to make a small reduction in the amount of illness caused by air pollution in this country?†††††	Very willing	12%
	Fairly willing	28
	Not too willing	22
	Not willing	38
	Total	100%

		Aug. 1975
Would you favor or oppose construction of new industries in your state, such as steel mills and power plants, if these new plants caused more air pollution?†††††	Favor	36%
	Oppose	59
	Other	5
	Total	100%

---

††† Secondary analysis of data from Louis Harris and Associates, references 61 and 63.

††††† Secondary analysis of data from FEA, reference 59.

Material comfort

Material comfort involves an orientation toward the acquisition of things or the conception that self-esteem is linked with material worth (34). The American standard of living is sometimes described as emphasizing passive gratification through things like spectator sports and products and services that provide satisfaction and pleasure with minimal effort (33).

One indication of the importance of material comfort is that nationally the majority of Americans (71 percent--see Table 9) feel allowing the mass of people to share a high standard of living was a major factor in making America great.

Energy use is often thought of as important in achieving material comfort. However, over the past few years the evidence appears mixed concerning people's preferences for reducing energy consumption as shown in Table 4.

TABLE 9. INDICATORS OF MATERIAL COMFORT AS A SOCIAL VALUE

Here is a list of things some people think have made America great .... For each item, do you feel this was a major factor in making America great, a minor factor, or hardly a factor at all?†		
		Oct. 1975
Allowing the mass of people to share a high standard of living	Major	71%
	Minor	23
	Hardly at all	6
	Total	100%
In order to conserve energy and protect our environment, we will have to make some changes in the way in which we now live. Which of the following would you be willing to do in order to protect our environment?††		
		Sept. 1975
Turn down the heat in your home in winter	Yes	86%
	No	14
	Total	100%
Not use air conditioning in summer	Yes	54%
	No	46
	Total	100%
Live in a small house or apartment	Yes	64%
	No	36
	Total	100%
In the past few months, in order to conserve gasoline, electricity and fuel, have you ....†		
		Oct. 1975
Watched TV less?	Yes	30%
	No	70
	Total	100%
Improved home insulation?	Yes	28%
	No	72
	Total	100%

---

† Secondary analysis of data from Louis Harris and Associates, reference 62.
†† Secondary analysis of data from Kentucky, reference 56.

Table 9 (continued)

		Oct. 1975
Postponed or cancelled purchase of and electrical appliance?	Yes	19%
	No	81
	Total	100%
To lower air pollution, which would you prefer?†††		
		Aug. 1975
Turning down the thermostat to 65 in winter; or paying $70 more per year in electricity and fuel costs	65°	76%
	Pay $70	20
	Other	4
	Total	100%
Turning off electricity for five hours a day or paying $30 a year more for electricity	Turn off electric	51%
	Pay $30 more	44
	Other	5
	Total	100%

†††Secondary analysis of data from FEA, reference 59.

Several state and national studies indicate that the majority state a willingness to reduce several forms of energy consumption that affect comfort, such as turning down the heat in winter. There is less support for reducing or eliminating air conditioning. Additionally, a majority indicate they have not used electrical appliances less often nor postponed or cancelled purchases of appliances to help conserve fuel. People indicate a willingness to tradeoff material comfort for economic benefit. The majority (76 percent) prefer lowering the heat rather than paying $70 more per year on fuel, however, only 51 percent were willing to have the electricity turned off for five hours per day rather than pay $30 more per year, when asked about ways of reducing air pollution.

Nationalism

Nationalism stresses the idea that the American way of life is morally superior and that it should be widely adopted elsewhere (33). In relation to energy development it implies that the country's interests are very important with respect to energy acquisition and/or development. Ohio (53), West Virginia (54) and national studies (see Table 10) show that strong majorities feel the United States is too dependent on foreign oil, and that the United States should become totally independent of foreign sources of energy. This strong feeling of nationalism is further indicated by the 80 percent who favor pointint out why it is a person's patriotic duty to cut down on his/her use of gas, oil and electricity.

TABLE 10. INDICATORS OF NATIONALISM AS A SOCIAL VALUE

There are a number of things the government can do to get people to cut down on how much gas, oil and electricity they use. Would you tell me which of the following you favor and which you oppose.†

		March 1976	April 1976
Point out to people why it is their patriotic duty to cut down on how much gas, oil and electricity they use	Favor	83%	80%
	Oppose	17	20
	Total	100%	100%

		March 1975	July 1976
Would you like to see the U.S. become totally independent of all foreign sources of energy or not?††	Would like	84%	84%
	Would not like	16	16
	Total	100%	100%

† Secondary analysis of data from FEA, reference 59.

†† Secondary analysis of data from Louis Harris and Associates, references 61 and 63.

Progress/growth

Progress/growth is important with respect to energy development because it contains an emphasis on the future rather than on the past or present, with a receptivity to change (33). It implies a belief that things in general can be made better as well as that things should be made better (32). Indicators of progress/growth generally refer to economic gain or material accumulation as seen in Table 11.

Progress/growth is shown quite frequently through the need expressed by many people for new jobs and new industry. In three of five counties in southwestern Pennsylvania the lack of available employment ppportunities was among the most frequently named community problems (56,57). Further, there is support for governmental activity to facilitate this progress and growth, including the development of electric generating facilities. In Illinois, 73 percent of respondents surveyed were willing to see tax money spent for attracting new industry to the state. Similarly in Kentucky, 49 percent felt that more tax money should be spent attracting and developing industry while 13 percent felt less should be spent. In Indiana "new energy" ranked first statewide, among 28 community services, with 77 percent desiring an increase, job training was fifth (68.3 percent) and conservation was sixth (67.9 percent), with a majority willing to have some tax increase for these services (50). Nationally, more than 75 percent favored a nuclear plant in their area if it would mean more industry would be attracted which would provide more jobs.

TABLE 11. INDICATORS OF PROGRESS/GROWTH AS A SOCIAL VALUE

Are you willing to see tax money spent for the following programs and services?†			
		Feb. 1978	
Attracting new industry to the state	Yes	73%	
	No	27	
	Total	100%	
State and local governments in Kentucky spend tax money for many services and programs. Please circle the word that best shows whether you feel that more, less or the same amount of money should be spent in the areas listed below:††			
		Sept. 1975	
Attracting and developing industry	Less	13%	
	Same	38	
	More	49	
	Total	100%	
If a nuclear power plant were located in this area, would you favor or oppose it if ....†††			
		March 1975	July 1976
It would mean new industry would be attracted here, which would provide more jobs	Favor	81%	76%
	Oppose	19	24
	Total	100%	100%

† Secondary analysis of data from Illinois, reference 49.
†† Secondary analysis of data from Kentucky, reference 56.
††† Secondary analysis of data from Louis Harris and Associates, references 61 and 63.

The support is moderated if the new industry causes more air pollution. Under that circumstance only 36 percent favor new industry, compared to 59 percent who oppose it (see Table 8). There is strong support (95 percent agree) for balancing the need for environmental quality and the need for jobs (58). Further evidence of the concern over the rate of growth is seen in the preference for "an economy with little growth, which would allow for only a slow but steady increase in your standard of living and your income but would mean little inflation and few recessions" expressed by a large majority (81 percent) of Americans (68).

TABLE 12. INDICATORS OF PROPERTY AS A SOCIAL VALUE

		Sept. 1975
Should the owners of mineral rights be allowed to mine coal without consent of the property owner?†	Yes	8%
	No	92
	Total	100%
Here is a list of important issues which you and other Kentuckians might have talked about. We would like your opinion about each issue.†		
		Sept. 1975
Do you think good zoning regulations can help an area?	Yes	89%
	No	11
	Total	100%
Should there be long-range plans to determine how land should be used?	Yes	75%
	No	25
	Total	100%

† Secondary analysis of data from Kentucky, reference 52.

Overall there continues to be general support for progress/growth as a majority indicate an interest in attracting and/or developing industry in the area, often through the use of tax money. However, this is not support for growth at any cost as there is substantial concern for such factors as the environmental and inflationary effects of growth.

Property

Property as a value refers to the idea of possessing and controlling privately, real property. It includes the right to private property (43). Objections to the use of eminent domain often are that it is an infringement on this right. It is clear that property is important to a large majority of Americans. For example, 92 percent of Kentuckians felt that owners of mineral rights should not be allowed to mine coal without the consent of the property owner (see Table 12). However, a substantial majority of Kentuckians also saw advantages to zoning regulations (89 percent) and planning for future land use (75 percent). This indicates again, as with other social values, that even important and strongly held values are not viewed as absolutes; instead people appear to seek some degree of balance among them.

Science

The value science includes an emphasis on controlling nature, an interest in order, control and calculability. It emphasizes a growing confidence in a rational attempt to understand the world (32), through technology that world can be controlled.

TABLE 13. INDICATORS OF SCIENCE AS A SOCIAL VALUE

Here is a list of things some people think have made America great ... For each item do you feel this was a major factor in making America great, a minor factor, or hardly a factor at all?†		
		Oct. 1975
Industrial know-how and scientific progress	Major factor	93%
	Minor factor	6
	Hardly a factor	1
	Total	100%

† Secondary analysis of data from Louis Harris and Associates, reference 62.

The importance of science is apparent in the large majorities (93 percent--see Table 13) that feel industrial know-how and scientific progress were major factors in making America great. Such research and development are seen as necessary to keep the country prosperous; people also feel that scientific research and development are "the only way we can clean up air and water pollution," and that they "are main factors in increasing productivity" (69). However, there are a number of drawbacks also. In the view of many people, scientific research is too materialistic, denying people the enjoyment of non-material experiences, it's too impersonal and it is wasteful (69). While science and technology continue to be valued, clearly in recent years there has been a reaction against the idea of a technological fix as a solution to all problems.

Aesthetics and Activity/Work

Little recent data that are relevant to the ORBES study were found on the remaining values of aesthetics and activity/work. Aesthetics, referring to an appreciation of beauty, has received increased attention in recent years, in part due to its inclusion in the National Environmental Policy Act. While peoples' personal, artistic and cultural preferences vary a great deal, there is some evidence for agreement that aesthetics in general is important. However, efforts to develop more systematic indicators are still at an early stage, and focus primarily on developing typologies (70).

Activity/work is characterized by an emphasis on action and work as an end in itself. It shares with science the notion of dominating nature, which is generally recognized as a characteristic of American society (33).

SUMMARY

The importance of these social values is shown through a variety of state and national surveys. Although values are abstract preferences, the survey questions serve as indicators of the values. No one value has predominant importance over all others. This is particularly apparent when people are asked to choose among policies which reflect different values. While people often make choices that would be in their own self interest, they do not always do so. For example, they favor government policies that would provide financial rewards for insulation; they oppose policies that would increase fuel taxes even though that might lead to increased conservation, which is generally favored. There is also a concern for equity, or seeing that the burdens of the changing energy situation do not fall too harshly on the poor.

Although a number of specific values have been examined here, it appears that values are complex, that is, people strive to achieve a balance between competing values when confronted with difficult choices. This pattern is apparent in the responses to questions about energy policies. People expressed substantial agreement to many policy questions, however, there were others over which there was disagreement. It is these disagreements, which may reflect both differences in interpretation of policy and differences in values, that continue to make many energy policy decisions potential sources of conflict.

CHAPTER 4

VARIATIONS IN SOCIAL VALUES BY SOCIAL AND DEMOGRAPHIC CHARACTERISTICS

There was very high consensus in the responses to some of the indicators of social values discussed in Chapter 3. For some questions, 75 percent or more of the people answering gave the same response. However, in other cases there was much less agreement expressed. This indicates that there are differences both in the relative importance people attach to certain values, and in how people interpret policy choices. Policy choices usually have different impacts on different people, and this anticipated impact is often a factor in how those choices are viewed. There are many factors that may influence policy choices. Here a series of social and demographic factors are examined to show variation in values among some major segments of the population. These variations in values are then related to some energy policy issues.

The accompanying tables provide the basic information on similarities and differences across the various characteristics. However, for the purpose of identifying a difference across characteristics in the following discussion, three criteria were used: (1) most importantly, if a question was asked on more than one survey, there had to be a consistent pattern for the characteristic across the surveys; (2) the differences should be statistically significant, with probability equal to or greater than .01; and (3) the marginal frequencies had to be at least 50 cases, unless special note was made. The third criterion of at least 50 cases was generally not met for a few categories and yet the differences seemed important enough to discuss. This was particularly true for farmers, blacks and the "other" race category, who in some instances had substantially different positions than other people. Small marginal frequencies occur most often in the FEA studies since they have the smallest sample sizes.

FINDINGS

This analysis focuses on the values conservation/preservation, economic benefit, equity, freedom/governmental activity, health/safety and material comfort, with brief discussions of nationalism and progress/growth. These values appear to be particularly important to energy policy considerations, and are also those for which at least a minimum amount of data were available for this analysis.

Conservation/Preservation

The social value called conservation/preservation appears as very important to a substantial majority of Americans. This importance is indicated for example by the agreement of 80 percent of respondents to the statements:

"... that *now is the time* to cut back on buying things and conserve our resources *for future generations* (Table 14); and that conserving energy "... is very important in making the quality of life better in this country ..." (Table 15). In both of the surveys in which these questions were asked, women were slightly more likely to agree than men.

Peoples' views on reducing the use of specific fuel resources are also relatively strong, particularly for oil and gas, as seen in Table 16. A majority (56 percent in 1976) thought it is very important to slow down the use of oil and gas. An additional one-third thought it somewhat important to do so. That is a total of almost 90 percent who thought it somewhat or very important. However, only a third thought it very important to reduce coal use, and 42 percent more persons thought it somewhat important. Fewer farmers consistently say that it is very important to reduce consumption of these fuels; they are more likely to say it is only somewhat important or not important at all than other occupational categories. College graduates, however, are slightly *less* likely to say it is very important to reduce coal consumption, but *more* likely to say it is very important to reduce oil and gas consumption than other people.

Nationally, strong majorities indicate a number of things they are willing to do to conserve energy as Table 17 shows. About 90 percent indicate they prefer to install weather stripping and caulking, to buy insulation, storm windows or doors, and to have their furnace serviced yearly. Because of the high consensus there was little variation on social and demographic characteristics. However, on setting the air conditioner at 78 degrees (about 74 percent prefer), lowering the thermostat to 68 degrees daytime and 60 degrees at night (63 percent prefer), and buying an automatic thermostat with timer (52 percent) there was some variation. Education was the important factor; those with less education preferred to take these latter actions more than those with more education. Other factors, including age and income, did not show a consistent relationship.

When it comes to what people say they are actually doing to conserve energy, then age, income and sex, in addition to education are related. In general, older persons, particularly those over 65, are a little less likely to have conserved energy by lowering the winter temperature, using appliances less or other actions, according to a national study (Table 18). However, in Illinois, older people more often said they were using fewer appliances and living in a small house or apartment to conserve energy (Table 19). Also, in Illinois they were as likely to have improved home insulation as most younger people, in contrast to the national situation where they are less likely to do so. In general, those with higher incomes appear to be selective in how they are conserving by changing the temperature at home but not living in a smaller house or using fewer electrical appliances. Women were more likely to say they are conserving than men.

When people are asked to choose between environmentally conserving or preserving options and economic options, younger people, and those with more education and higher incomes are more willing to pay $30 per year to reduce air pollution in comparison with older, lesser education and lower income respondents as Table 20 shows. However, those differences largely disappear

TABLE 14. NOW IS THE TIME TO CONSERVE OUR RESOURCES FOR FUTURE GENERATIONS, IN PERCENT[@]

	November, 1974		December, 1974	
	agree	disagree	agree	disagree
Age				
less than 30	84%	16%	82%	18%
30-49	82	18	78	22
50 and over	76	24	80	20
Race				
black	89*	11*	97	3
white	79	21	78	22
Sex				
female	86	14	84	16
male	74	26	76	24
Education				
less than 9 years	85	15	84	16
9-11 years	75	25	89	11
12 years	79	21	77	23
more than 12 years	82	18	74	26
Income				
less than $7000	78	22	80	20
$7000 to $9999	94	6	86	14
$10,000 to $14,999	82	18	82	18
$15,000 to $19,999	71	29	77	23
$20,000 and over	80	20	77	23
Residence				
city	83	17	81	19
suburb	77	23	79	21
small town	80	20	82	18
rural area	82	18	78	22

@ Secondary analysis of data from FEA, reference 59; for full text of question see Table 4.

* Percentages based on less than 50 cases.

TABLE 15. IMPORTANCE OF CONSERVING ENERGY IN MAKING QUALITY OF LIFE BETTER, IN PERCENT@

	Very important	Somewhat important	Hardly important
Age			
less than 20	75%*	22%*	3%*
20-29	80	16	3†
30-39	79	18	3
40-49	79	17	4
50-64	82	14	4
65 and over	77	19	4
Race			
black	73	18	8†
Spanish-American	77*	20*	3*
white	80	17	3
Sex			
female	82	16	2
male	77	18	5
Education			
8 years or less	75	18	7
9-11 years	81	17	2
12 years	80	17	3
13-15 years	78	18	4
16 years or more	82	15	2†
Income			
less than $5000	75	21	4
$5000 to $9999	81	14	5
$10,000 to $14,999	81	18	2†
$15,000 to $19,999	74	19	6†
$20,000 to $24,999	85	13	2
$25,000 or more	82	16	2

@ Secondary analysis of data from Louis Harris and Associates, reference 64; "As far as you personally are concerned, do you feel conserving energy is very important in making the quality of life better in this country, only somewhat important or hardly important at all in making the quality of life better?"

* Percentages based on 50 cases.

† Percentages do not add to 100% due to rounding error.

TABLE 15 (continued)

	Very important	Somewhat important	Hardly important
Occupation			
professional	82	15	2†
managers	82	16	3†
clerical/sales	79	17	4
skilled	77	19	4
operatives/unskilled	77	18	5
service workers	81	14	4†
farmers	74*	22*	4*

† Percentages do not add to 100% due to rounding error
* Percentages based on 50 cases.

when the choices involve lowering the thermostat to 65 degrees in winter or paying $70 more per year to reduce air pollution.

There are a number of policies that could be adopted by government to promote conservation/preservation of fuels. Three policies were examined here. One policy would ration the amount of gas, oil and electricity each family could use and would let them decide for themselves where they would cut down. A majority of people, about 60 percent, oppose this policy (Table 21). (This is fairly similar to the responses in a Kentucky study also; see column 1 of Table 22.) However, about half of those persons with incomes below $7000 favor this policy, as do slight majorities of blacks and farmers. Kentucky residents rather uniformly favored regulations to make industries use less fuel.

A second type of policy involves incentives for conservation. An example of such a policy is contained in a question on whether people favor or oppose tax rebates for those who install extra insulation and other energy conserving things in their homes. Table 23 shows that over three-fourths of the respondents favored this policy. Variations were only very slight, with smaller majorities of more educated persons, older persons, and whites than others favoring tax rebates. Income did not make a consistent difference. The least popular policy option is a special tax that would increase the cost of energy. Slightly over three-fourths of the people responding opposed this policy. This opposition appears to be quite uniform across the social and demographic variables examined here.

From these data it appears that incentives, e.g., tax rebates, are preferred over dis-incentives, e.g., rationing and taxes to a rather substantial degree. Respondents' income was only a modestly important factor in their views of one of these policies--rationing; it was not an important

TABLE 16. PERCEIVED IMPORTANCE OF SLOWING DOWN THE USE OF COAL, OIL AND GAS[@]

	Coal		
	Very important	Somewhat important	Not important
Age			
less than 20	31%	48%	20%†
20-29	32	45	23
30-39	27	48	25
40-49	34	38	28
50-64	33	39	28
65 and over	32	37	31
Race			
black	38*	39*	22*†
Spanish-American	38*	34*	28*
white	31	42	27
Sex			
female	34	44	21†
male	29	40	31
Education			
8 years or less	36	39	26†
9-11 years	34	40	25†
12 years	30	48	22
13-15 years	30	46	24
16 years or more	30	34	36
Income			
less than $5000	38	39	24†
$5000 to $9999	30	46	24
$10,000 to $14,999	36	38	26
$15,000 to $19,999	29	42	29
$20,000 to $24,999	26	47	28†
$25,000 or more	21	41	38
Occupation			
professional	24	40	36
managers	37	35	28
clerical/sales	35	42	22†
skilled	26	47	27
operatives/unskilled	37	43	20
service workers	40	38	22
farmers	24*	53*	22*†

[@] Secondary analysis of data from Louis Harris and Associates, reference 64; for full text of question see Table 4.

† Percentages do not add to 100% due to rounding error.

* Percentages based on less than 50 cases.

TABLE 16 (continued)

	Oil		
	Very important	Somewhat important	Not important
Age			
less than 20	66%	26%	8%
20-29	60	32	8
30-39	57	37	6
40-49	56	32	12
50-64	52	32	15†
65 and over	54	32	15†
Race			
black	56*	32*	12*
Spanish-American	53*	31*	17*
white	57	33	11†
Sex			
female	56	35	10†
male	57	31	12†
Education			
8 years or less	46	38	16
9-11 years	56	32	12
12 years	54	35	11
13-15 years	55	34	11
16 years or more	65	27	8
Income			
less than $5000	53	33	14
$5000 to $9999	51	37	12
$10,000 to $14,999	58	32	10
$15,000 to $19,999	55	32	14†
$20,000 to $24,999	59	34	7
$25,000 or more	61	31	8
Occupation			
professional	57	33	10
managers	63	28	10†
clerical/sales	57	32	11
skilled	50	36	13†
operatives/unskilled	55	32	13
service workers	59	31	10
farmers	44*	42*	13*†

† Percentages do not add to 100% due to rounding error.
* Percentages based on less than 50 cases.

TABLE 16 (continued)

	Gas		
	Very important	Somewhat important	Not important
Age			
less than 20	66%	28%	7%†
20-29	59	33	8
30-39	57	37	7†
40-49	55	32	13
50-64	52	32	16
65 and over	55	28	17
Race			
black	59*	26*	15*
Spanish-American	50*	31*	19*
white	56	33	11
Sex			
female	56	33	10†
male	55	31	13†
Education			
8 years or less	50	33	17
9-11 years	55	28	17
12 years	53	37	10
13-15 years	55	33	13†
16 years or more	63	28	11
Income			
less than $5000	55	29	17†
$5000 to $9999	53	35	13†
$10,000 to $14,999	57	32	10†
$15,000 to $19,999	51	36	13
$20,000 to $24,999	54	37	9
$25,000 or more	63	29	8
Occupation			
professional	56	34	10
managers	62	28	11†
clerical/sales	57	31	11†
skilled	50	35	15
operatives/unskilled	57	31	12
service workers	60	27	12†
farmers	47*	38*	16*†

† Percentages do not add to 100% due to rounding error.
* Percentages based on less than 50 cases.

TABLE 17. PERCENT WHO PREFER SELECTED WAYS OF CUTTING DOWN FUEL CONSUMPTION AROUND THE HOUSE@

	Install weather stripping		Buy insulation, storm windows		Set thermostat at 68/60 degrees		Buy automatic thermostat	
	March 1976	April 1976	March 1976	April 1976	March 1976	April 1976	March 1976	April 1976
Age								
less than 30	95%	90%	91%	90%	60%	66%	55%	50%
30-39	97	99	99	96	65	61	58	54
40-49	98	98	91	97	59	76	46	48
50-59	96	98	99	97	67	66	56	51
60 and over	95	94	94	93	67	73	60	64
Race								
black	95*	93*	90*	96*	69*	83*	81*	69*
white	96	95	95	94	62	66	53	51
Sex								
female	96	95	93	92	61	66	55	51
male	96	95	96	96	65	71	58	55
Education								
less than 9 yrs.	96*	98*	93*	97*	68*	73*	73*	60*
9-11	99	98	98	96	79	75	53	58
12 years	97	94	96	93	57	62	55	48
more than 12 yrs.	93	92	91	92	59	70	48	52
Income								
less than $7000	96	92	92	88	71	70	72	55
$7000 to $9999	94	99	91	99	70	64	48	58
$10,000 to 14,999	98	95	96	94	54	70	54	45
$15,000 to $19,999	98	98	96	97	59	69	56	48
$20,000 and over	90	94	97	93	64	62	48	53
Occupation								
white collar	95	92	96	92	60	68	49	56
blue collar	98	97	96	95	67	71	66	52
farmer	87*	100*	94*	100*	30*	82*	73*	62*
not employed	95	92	93	93	61	68	50	50
other	96*	100*	91*	99*	74*	59*	65*	58*

@ Secondary analysis of data from FEA, reference 59; for full text of question, see Table 4.

* Percentages based on less than 50 cases.

TABLE 17 (continued)

	Install weather stripping		Buy insulation, storm windows		Set thermostat at 68/60 degrees		Buy automatic thermostat	
	March 1976	April 1976	March 1976	April 1976	March 1976	April 1976	March 1976	April 1976
Residence								
city	96%	95%	98%	91%	68%	69%	66%	58%
suburb	98	92	94	91	56	63	50	49
small town	97	96	92	98	61	73	53	56
rural area	93	99	92	98	66	67	52	46

	Cold water wash		Air conditioner at 78^{o}		Furnace serviced once a year	
	March 1976	April 1976	March 1976	April 1976	March 1976	April 1976
Age						
less than 30	89	88	81	67	87	92
30-39	88	91	73	78	87	97
40-49	80	91	81	84	91	81
50-59	85	86	86	82	94	93
60 and over	85	88	76	86	87	91
Race						
black	80*	92*	87*	65*	88*	99*
white	87	88	78	78	87	92
Sex						
female	86	89	77	79	88	91
male	86	88	81	76	89	94
Education						
less than 9 years	90*	92*	81*	89*	85*	91*
9-11 years	88	91	84	83	96	94
12 years	86	86	81	78	89	94
more than 12 years	83	87	72	66	86	90
Income						
less than $7000	88	88	77	83	88	92
$7000 to $9999	88	87	82	76	92	91
$10,000 to $14,999	89	89	85	83	92	93
$15,000 to $19,999	84	89	87	80	86	92
$20,000 and over	81	90	70	65	82	94

* Percentages based on less than 50 cases.

TABLE 17 (continued)

	Cold water wash		Air condition-er at 78°		Furnace serviced once a year	
	March 1976	April 1976	March 1976	April 1976	March 1976	April 1976
Occupation						
white collar	89%	88%	69%	74%	90%	96%
blue collar	87	89	88	82	89	94
farmer	83*	91*	100*	95*	65*	100*
not employed	87	89	77	76	88	89
other	79*	84*	80*	76*	92*	91*
Residence						
city	89	85	76	76	90	87
suburb	88	89	80	70	94	92
small town	79	93	81	79	88	96
rural area	89	87	85*	92	81	97

* Percentages based on less than 50 cases.

factor in the two policies that directly use economic manipulation to achieve policy objectives. This indicates a relatively uniform position throughout the nation on these policies.

Economic Benefit

Many people make choices among policy options that do not provide maximum economic benefits to them. In general, younger persons, those with college educations and urban/suburban residents are more likely to choose options that tend to maximize non-economic values, among the issues examined here. Conversely, older persons, those with a high school education or less and rural residents generally choose economically beneficial options.

Older persons, particularly those over 60 years of age, oppose paying higher prices. For example, only about half of those over 60 (or over 50 also) would be willing to pay $30 more per year for electricity to reduce air pollution; however, over three-fourths of those under 30 and two-thirds of those 30 to 39 would be willing to do so (Table 20). The difference between age groups is even greater when asked about paying $200 more per year to reduce illness caused by air pollution; 77 percent of those 60 and over were not willing or not too willing to do so, contrasted to 56 percent of those under 30 who were very or fairly willing (Table 24).

Rural residents were more interested in lower prices for electricity than in reducing pollution generally (Table 25). In part this may be because farmers tend to see air pollution as not as serious as others (Table 26). It should be noted though that more farmers, who are not the only rural

TABLE 18. PERCENT WHO REPORTED THEY HAVE REDUCED ENERGY USE IN SELECTED WAYS, NATIONALLY@

	Changed temp at home	Used fewer lights	Used lower watt bulbs	Used electrical appliances less
Age				
less than 20	58%	70%	34%	42%
20-29	69	77	46	49
30-39	70	73	46	43
40-49	68	73	42	43
50-64	66	74	40	44
65 and over	60	67	33	39
Race				
black	52	71	48	50
Spanish-American	57*	67*	47*	39*
white	68	74	40	44
Sex				
female	71	80	45	49
male	61	67	38	39
Education				
8 years or less	58	71	48	45
9-11 years	63	71	43	46
12 years	69	75	43	46
13-15 years	70	75	40	46
16 years or more	68	73	38	36
Income				
less than $5000	57	73	44	48
$5000 - 9999	65	75	43	44
$10,000 - 14,999	71	75	43	46
$15,000 - 19,999	69	72	37	44
$20,000 - 24,999	63	72	32	34
$25,000 or more	77*	77*	43*	40*
Occupation				
professional	69	72	40	41
managers	70	77	40	47
clerical/sales	67	68	36	43
skilled	66	74	46	46
operatives/unskilled	63	73	46	43
service workers	68*	74*	37*	43*
farmers	68*	71*	40*	46*

@Secondary analysis of data from Louis Harris and Associated, reference 62; for full text of question see Table 4.
*Percentages based on less than 50 cases.

TABLE 18 (CONTINUED)

	Watched TV less	Improved home insulation	Postponed electrical appliance purchase
Age			
less than 20	29%	22%	20%
20-29	34	23	27
30-39	34	31	14
40-49	27	37	16
50-64	25	29	19
65 and over	28	23	13
Race			
black	26	17	21
Spanish-American*	29*	36*	30*
white	30	29	18
Sex			
female	32	28	20
male	28	27	18
Education			
8 years of less	29	20	15
9-11 years	31	24	26
12 years	30	32	19
13-15 years	33	32	17
16 years or more	26	25	17
Income			
less than $5000	34	18	18
$5000 - 999	30	28	26
$10,000 - 14,999	29	33	22
$15,000 - 19,999	26	31	16
$20,000 - 24,999	29	36	8
$25,000 or more*	28*	27*	11*
Occupation			
professional	30	30	16
managers	26	29	16
clerical/sales	26	23	17
skilled	31	34	22
operatives/unskilled	28	24	19
service workers*	36*	32*	25*
farmers*	31*	26*	18*

@Secondary analysis of data from Louis Harris and Associated, reference 62; for full text of question see Table 4.

*Percentages based on less than 50 cases.

TABLE 19. PERCENT WHO REPORTED THEY HAVE REDUCED ENERGY USE IN SELECTED WAYS, IN ILLINOIS@

	Heat 68° in winter	Air conditioner less	Lives in small house
Age			
less than 20	66%	62%	49%
20-29	69	80	59
30-39	65	85	41
40-49	71	81	38
50-59	75	82	49
60-69	71	85	71
70 and over	69	87	86
Race			
black	56	84	60
white	70	82	54
Sex			
female	69	82	57
male	71	82	51
Education			
8 years or less	73	86	75
9-11 years	69	81	64
12 years	68	81	50
13-15 years	69	81	52
16 years or more	75	85	48
Income			
less than $5000	74	85	72
$5000 to $8999	67	84	74
$9000 to $14,999	68	83	65
$15,000 to $19,000	66	82	51
$20,000 to $24,999	70	82	41
$25,000 or more	72	79	29
Occupation			
professional	73	86	49
managers	74	78	40
farmers and farm managers	74	82	50
sales workers	66	76	49
clerical workers	73	82	52
craftsmen	61	78	53
operatives	78	85	62
service workers	69	78	63
laborers, including farm	69	82	56

@ Secondary analysis of data from Illinois, reference 49; for full text of question, see Table 4.

TABLE 19 (continued)

	Heat 68° in winter	Air conditioner less	Lives in small house
Residence			
50,000 or more	70%	81%	52%
10,000 to 49,999	70	84	57
2500 to 9999	70	79	57
town less than 2500	68	81	56
open country	69	87	52
farm	72	84	42

residents, are willing to pay higher prices to protect the environment than any other occupation (88 percent compared to 74 percent for white and blue collar workers combined, Table 27). However, farmers are about evenly split on favoring new industry coming into their state even if it causes more air pollution. It is clear from Table 28 that most Kentucky residents favor the state supporting the development of new energy soruces. At the same time, the majority of rural area residents, like residents of all other areas, oppose new industry that causes pollution (also see Table 22). These patterns of values among farmers compared to others may in part be due to the greater emphasis they place on voluntary action rather than government intervention, in addition to what they see as a need for more jobs in rural areas. Thus, industry has a right to come in, that is it should not be prevented from doing so by government action, and they (farmers) are willing to pay voluntarily to combat pollution.

Those with more education, at least some college education, were more likely to choose environmental protection over lower prices. For example, over two-thirds of such persons preferred strict strip mining laws over "getting coal at the cheapest possible cost," while the majority of those with less than a high school education preferred the cheapest cost alternative (Table 37). While a majority of all respondents favored a nuclear plant in their area if it would stabilize electricity rates those with a college education were somewhat less likely to favor it (Table 29).

The concern of many older and less educated persons with keeping prices as low as possible is understandable in terms of their needs. Small town and rural area residents represent a somewhat different situation. Although they also may have needs, they appear to be saying "brings jobs to our area" to help us. An alternative would be for them to leave their area, as others have done. To the extent they choose not to leave, when they could do so voluntarily in most cases, they are choosing "place" over economic opportunity elsewhere. This implies the importance of "sense of place" among rural area residents.

TABLE 19 (continued)

	Improve home insulation	Use fewer electrical appliances
Age		
less than 20	70%	54%
20-29	68	59
30-39	78	56
40-49	76	54
50-59	83	61
60-69	82	71
70 and over	80	79
Race		
black	79	73
white	77	61
Sex		
female	77	63
male	78	59
Education		
8 years or less	80	80
9-11 years	80	70
12 years	78	59
13-15 years	76	57
16 years or more	73	52
Income		
less than $5000	76	79
$5000 to $8999	78	75
$9000 to $14,999	75	62
$15,000 to $19,000	77	56
$20,000 to $24,999	80	52
$25,000 or more	76	48
Occupation		
professional	74	54
managers	72	49
farmers and farm managers	87	50
sales workers	83	59
clerical workers	76	59
craftsmen	74	62
operatives	80	66
service workers	76	67
laborers, including farm	81	64

TABLE 19 (continued)

	Improve home insulation	Use fewer electrical appliances
Residence		
50,000 or more	70%	63%
10,000 to 49,999	75	61
2500 to 9999	78	61
town less than 2500	78	61
open country	86	62
farm	80	57

Equity

Although data on equity are limited, they indicate that social class factors and age are quite consistently related to views on equity issues. In general, persons who were in lower status occupations, had less education and lower incomes appeared to place greater importance on equity than those with higher status occupations, college education and higher incomes. For example, in Illinois about 74 percent of those with incomes below $9000 favored tax money being spent to help low income people with heating bills, compared to only 49 percent of those with incomes of $25,000 or more (Table 30). The same pattern was found nationally with regard to government looking after the less fortunate being a factor in making America great (Table 31).

With regard to age, in the Illinois study, older persons favored the "equity" answer (that is, providing tax dollars to low income people) more than younger persons. Responses were a little different nationally about government looking after the less fortunate. There a majority of those 18 to 20 years old (56 percent) and over 50 (55 percent) indicated this was a major factor in America's greatness compared to 47 percent of those between 20 and 49. The other indicator of equity described earlier on returning the coal severance tax to coal producing counties, was strongly endorsed (82 percent--see Table 28) overall by Kentuckians, with only small variations across the social and demographic factors studied.

Although these are quite limited data, they suggest rather strongly that it is not those in higher status positions who are the predominant advocates of equity. Rather it is those toward the lower end of the class structure who more often express support for equity.

Freedom/Governmental Activity

Indicators of social class position in society, such as income, occupation and education, age and race appear to be rather consistent sources of difference with regard to views on freedom/governmental activity. For example, the majority of people feel voluntary cutbacks will be sufficient for reducing energy consumption, and that it is not necessary for the

TABLE 20. WILLINGNESS TO PAY TO REDUCE AIR POLLUTION, IN PERCENT

	Pay $30 to reduce air pollution@		To lower air pollution:#		
	yes	no	65 degrees in winter	Pay $70 more per year	Other
Age					
less than 30	77%	23%	79%	20%	2%†
30-39	66	34	78	18	5†
40-49	51	39	76	23	1
50-59	52	48	71	19	9†
60 and over	51	49	78	20	2
Race					
black	50*	50*	64*	30*	7*†
white	63	37	79	18	3
Sex					
female	57	43	76	22	2
male	68	32	78	18	4
Education					
less than 9 years	55*	45*	86*	11*	2*†
9-11 years	61*	39*	79*	18*	3*
12 years	63	37	70	26	3†
more than 12 years	70	30	78	18	4
Income					
less than $7000	59	41	74	23	2†
$7000 to $9999	62	38	77	21	2
$10,000 to $14,999	65	35	78	16	5†
$15,000 to $19,999	67	33	82	15	3
$20,000 and over	74	26	76	23	1
Occupation					
white collar	67	33	79	17	4
blue collar	59	41	84	14	3†
farmer	63*	37*	65*	35*	0*
not employed	64	36	72	24	3†
other	60	40	70	25	5

# Secondary analysis of data from FEA, reference 59; for full text of question, see Table 9.

@ Secondary analysis of data from FEA, reference 59; for full text of question see Table 8.

† Percentages do not add to 100% due to rounding error.

* Percentages based on less than 50 cases.

TABLE 20 (continued)

	Pay $30 to reduce air pollution		To lower air pollution:#		
	yes	no	65 degrees in winter	Pay $70 more per year	Other
Residence					
city	61%	39%	73%	23%	4%
suburb	62	38	75	19	6
small town	63	37	80	19	1
rural area	68	32	80	18	2

government to pass laws regulating energy use (Tables 32 and 36). However, those with at least some college education were more likely to feel government action would be necessary (over 50 percent in one study and about 35 percent in the other).

Farmers particularly favor voluntary cutbacks in fuel use (by 10 to 20 percent over other occupations). The only occupational category in which a majority favors governmental laws is "professionals," in only one study in which 52 percent expressed that preference. The preference of farmers for voluntary action rather than governmentally mandated action is seen in other policy issues also. For example, farmers more than other occupations would prefer not to see a plant forced to close because of the high cost of pollution control when the choice is for government to make an exception (Table 33). The great majority of farmers (about 90 percent) oppose tax incentives to oil companies for production and exploration compared to about half (55 percent) of other people (Table 34). Most people opposed a governmental policy that would "ration the amount of gas, oil and electricity each family can use and let people decide for themselves where they will cut down" (Table 21). However, a majority of farmers said they favor such a policy, which contains both a strong element of government action and of voluntariness. This is consistent with their favoring voluntary reduction in energy consumption (Tables 32 and 36). The inconsistency among farmers in two studies over favoring or opposing removing price regulations may result from the small number of farmers in these particular studies (Table 35).

The importance of social class as a differentiating factor is also seen in the choice between strict regulations on strip mining vs. cheap coal. Nationally, the majority of those with less than a high school education favor cheaper coal, while over two-thirds of those with at least some college edcuation favor strict regulations as shown in Table 37.

TABLE 21. ACCEPTABILITY OF RATIONING AMOUNT OF FUEL AND LET EACH FAMILY DECIDE WHERE THEY WILL CUT DOWN, IN PERCENT@

	March, 1976		April, 1976	
	favor	oppose	favor	oppose
Age				
less than 30	40%	60%	37%	63%
30-39	45	55	33	67
40-49	45	55	38	62
50-59	47	53	35	65
60 and over	49	51	39	61
Race				
black	58*	42*	47*	53*
white	43	57	35	65
Sex				
female	48	52	38	62
male	42	58	35	65
Education				
less than 9 years	64*	36*	34*	66*
9-11 years	50	50	40	60
12 years	39	61	32	68
more than 12 years	38	62	41	59
Income				
less than $7000	60	40	43	57
$7000 to $9999	41	59	32	68
$10,000 to $14,999	42	58	29	71
$15,000 to $19,999	36	64	37	63
$20,000 and over	32	68	37	63
Occupation				
white collar	34	66	32	68
blue collar	44	56	28	72
farmer	74*	26*	41*	59*
not employed	48	52	38	62
other	62*	38*	64*	36*

@Secondary analysis of data from FEA, reference 59; "There are a number of things the government can do to get people to cut down on how much gas, oil and electricity they use. Would you tell me which of the following you favor, and which you oppose? Ration the amount of gas, oil and electricity each family can use and let people decide for themselves where they will cut down?

*Percentages based on less than 50 cases.

TABLE 21 (CONTINUED)

	March, 1976		April, 1976	
	favor	oppose	favor	oppose
Residence				
city	45	55	44	56
suburb	44	56	33	67
small town	42	58	32	68
rural area	52	48	34	66

@Secondary analysis of data from FEA, reference 59; "There are a number of things the government can do to get people to cut down on how much gas, oil and electricity they use. Would you tell me which of the following you favor, and which you oppose? Ration the amount of gas, oil and electricity each family can use and let people decide for themselves where they will cut down?"

*Percentages based on less than 50 cases.

The relationship of governmental action to economic benefits is evident also in that older persons, those over 40 or 50 years, are more likely to favor using taxes to attract new industry to their area in both Illinois (Table 30) and Kentucky (Table 38). In Kentucky there was substantial regional variation on this with the majority of rural and smaller town (up to 10,000) residents favoring more tax money being used for this purpose, compared to only about a third of those in the larger urban areas. There was little difference across age categories or other variables for that matter, among Kentucky residents in feeling more should be spent to clean up air and water pollution (Table 39). However, nationally persons over 50 were more likely to favor removing price regulations and relying on competition to determine the price of energy (Table 35). The majority of Kentucky residents do not feel strip mining should be banned (Table 40). Farmers and those in smaller towns and rural areas particularly felt this way, compared to residents of more urbanized areas. Support for mining increased to around 90 percent "under the condition that mining companies restore land they strip mine."

Balcks differ from whites on several of these issues. They prefer cheap coal to strict strip mine regulations, whites do not, for example. Although like whites the majority of blacks opposed increases in federal government intervention in "big business" in general and the electric utilities in particular, substantially more blacks than whites favored such intervention.

Health/Safety

There is broad, general support shown for health and safety across a number of policy issues by a substantial majority of Americans. Consequently

TABLE 22. PERCENT WHO SAY GOVERNMENT REGULATIONS SHOULD MAKE PEOPLE AND INDUSTRIES USE LESS FUEL AND MAKE INDUSTRIES STOP POLLUTING, IN KENTUCKY@

	Regulations to make individuals use less fuel	Regulations to make industries use less fuel	Government make industries stop polluting
Age			
less than 20	44%	80%	83%
20-29	43	73	85
30-39	45	68	84
40-49	47	70	87
50-59	51	70	85
60-69	52	75	87
70 and over	48	71	87
Race			
Black	7	75	87
white	47	71	85
Sex			
female	47	73	86
male	46	70	85
Education			
8 years or less	47	70	81
9-11 years	47	68	84
12 years	45	72	84
13-15 years	43	71	90
16 years or more	55	76	92
Income			
less than $5000	51	72	82
$5000 to $8999	45	72	85
$9000 - $14,999	46	71	85
$15,000 - $19,000	51	74	90
$20,000 - $24,999	43	68	92
$25,000 or more	46	67	86

@Secondary analysis of data from Kentucky, reference 52; for full text of question see Table 4.

TABLE 22 (CONTINUED)

	Regulations to make individuals use less fuel	Regulations to make industries use less fuel	Government make industries stop polluting
Occupation			
professional	54%	77%	91%
managers	47	70	90
sales workers	46	67	85
clerical worker	52	72	89
craftsmen	41	69	82
operatives	42	68	83
laborers	41	70	81
farmers, farm managers, laborers	53	74	82
service workers	43	69	90
Residence			
Northern Ky. metro area	48	76	87
Louisville metro area	44	72	91
Lexington metro area	54	73	89
10,000 - 49,999	50	72	87
2500 - 9999	46	72	87
town less than 2500	48	72	84
open country	42	69	82
farm	50	72	79

@Secondary analysis of data from Kentucky, reference 52; for full text of question see Table 4.

in almost all cases the variations that occur are simply variations in the size of the majority indicating their preference on an issue. These variations are important, nevertheless, in that they show the relative importance of health and safety among various categories of people.

Farmers consistently expressed less concern for health and safety issues across a series of questions shown in Table 42 concerned with "making the quality of life better in this country." The issues were curbing air and water pollution, making products and services safer and strictly enforcing safe working conditions. Whereas about 70 to 80 percent of other persons felt these were very important to improving quality of life, 20 to 30 percent fewer farmers felt so. That is, in some cases less than a majority of farmers felt this way.

TABLE 23. ACCEPTABILITY OF USE OF TAXES TO REDUCE FUEL CONSUMPTION, IN PERCENT

	Tax rebates to reduce home fuel use@			
	March 1976		April 1976	
	favor	oppose	favor	oppose
Age				
less than 30	82	18	85	15
30-39	79	21	83	17
40-49	70	30	76	24
50-59	81	19	72	28
60 and over	68	32	75	25
Race				
black	89*	11*	82*	18*
white	75	25	79	21
Sex				
female	75	25	80	20
male	79	21	79	21
Education				
less than 9 years	77*	23*	84*	16*
9-11 years	92	8	85	15
12 years	93	27	75	25
more than 12 years	75	25	80	21+
Income				
less than $7000	77	23	79	21
$7000 to $9999	82	18	82	18
$10,000 to $14,999	84	16	74	26
$15,000 to $19,999	71	29	83	17
$20,000 and over	71	29	78	22

@Secondary analysis of data from FEA, reference 59; for full text of question see Table 4.

*Percentages based on less than 50 cases.

+Percentages do not add to 100% due to rounding error.

TABLE 23 (CONTINUED)

	Tax rebates to reduce home fuel use@			
	March 1976		April 1976	
	favor	oppose	favor	oppose
Occupation				
white collar	74	26	74	26
blue collar	84	16	78	22
farmer	90*	9*+	71*	29*
not employed	72	28	83	17
other	83*	17*	82*	18*
Residence				
city	78	22	79	21
suburb	79	21	77	23
small town	77	23	84	16
rural area	74	26	75	25

@Secondary analysis of data from FEA, reference 59; for full text of question see Table 4.
*Percentages based on less than 50 cases.
+Percentages do not add to 100% due to rounding error.

There is also a small but generally consistent difference across social classes, as indicated by education and income. Those with college educations and higher incomes were less concerned than those with high school or less education and lower incomes about product and services safety, safe working conditions (Table 42) and about cuts in federal funding for health programs and product safety (Table 43).

Women consistently are more concerned about health and safety than men, however, the magnitude of the difference is not great. This pattern holds across issues of pollution, product safety and working conditions.

Despite the concern for health and safety, when people are asked about willingness to pay, substantial differences exist. Age appears to be particularly important as the differentiating factor. For example, when asked "How willing would you be to pay $200 per year more to make a small reduction in the amount of illness caused by air pollution in this country?", 77 percent of those 60 years of age and over responded either "not willing" or "not too willing" (Table 24). About 62 percent of those 30 to 59 responded that way but only 43 percent of those under 30 did so. Income was not related to willingness to pay on this question. When asked about paying $30 more per year to cut down on air pollution, a slight majority of those over 50 said they would (Table 20). This increased to 77 percent of those under 30 years of age. In this case, there was a small relationship between income and willingness to pay, but it was less strong than the relationship

TABLE 23 (CONTINUED)

	Special tax to make fuel more expensive#			
	March 1976		April 1976	
	favor	oppose	favor	oppose
Age				
less than 30	23	77	23	77
30-39	28	72	21	79
40-49	20	80	20	80
50-59	24	76	20	80
60 and over	27	73	29	71
Race				
black	39*	61*	20*	80*
white	22	78	23	77
Sex				
female	23	77	20	80
male	25	75	26	74
Education				
less than 9 years	24*	76*	32*	68*
9-11 years	33	67	19	81
12 years	20	80	19	81
more than 12 years	26	74	25	75
Income				
less than $7000	18	82	27	73
$7000 to $9999	23	77	14	86
$10,000 to $14,999	30	70	30	70
$15,000 to $19,999	27	73	21	79
$20,000 and over	24	76	18	82

@Secondary analysis of data from FEA, reference 59; for full text of question see Table 4.

#Secondary analysis of data from FEA, reference 59; for full text of question see Table 5.

*Percentages based on less than 50 cases.

TABLE 23 (CONTINUED)

	Special tax to make fuel more expensive#			
	March 1976		April 1976	
	favor	oppose	favor	oppose
Occupation				
white collar	24	76	26	74
blue collar	30	70	18	82
farmer	40*	60*	26*	74*
not employed	18	82	25	75
other	31*	69*	17*	83*
Residence				
city	33	67	24	76
suburb	22	78	21	79
small town	15	85	24	76
rural area	22	78	24	76

@Secondary analysis of data from FEA, reference 59; for full text of question see Table 4.
#Secondary analysis of data from FEA, reference 59; for full text of question see Table 5.
*Percentages based on less than 50 cases.

with age.

The majority of people favored nuclear power consistently in several studies. (All studies cited here are prior to the Three Mile Island incident in 1979.) Generally, 55 to 70 percent were in favor of nuclear power in these studies (67). In 1975, nuclear power plants were viewed as at least "somewhat safe" by a majority of people. At that time 31 percent viewed them as "very safe," 47 percent as "somewhat safe," 15 percent as "not so safe" and 7 percent as "dangerous." Similar percentages were found in 1976. Nationally, persons under 30, blacks, Mexican-Americans, women, equipment operators/unskilled laborers, service workers and farmers saw nuclear plants as less safe than others (Table 45). Kentucky residents also favored developing nuclear power, with older persons, more educated, higher income and higher status occupations showing the largest majorities in favor (Table 28).

A majority nationally were concerned with the disposal of radioactive wastes and "the escape of radioactivity into the atmosphere" (Table 8) from nuclear power plants. The concern for health and safety aspects was particularly apparent in responses to the question "If a nuclear power plant were located in this area, would you favor or oppose it if it were declared unsafe by federal government regulatory agencies." In 1975, only 14 percent favored a plant in their area under those conditions, and 86 percent opposed

TABLE 24. WILLINGNESS TO PAY $200 MORE PER YEAR TO REDUCE ILLNESS CAUSED BY AIR POLLUTION[@]

	Very willing	Fairly willing	Not too willing	Not willing
Age				
less than 30	16%	40%	24%	19%†
30-39	14	23	22	40 †
40-49	8	27	22	42 †
50-59	10	28	18	43 †
60 and over	7	16	19	58
Race				
black	21*	28*	12*	39*
white	11	28	22	39
Sex				
female	10	29	25	36
male	14	27	18	42†
Education				
less than 9 years	7*	23*	25*	45*
9-11 years	12*	27*	25*	36*
12 years	10	31	18	41
more than 12 years	17	30	23	31†
Income				
less than $7000	11	29	23	37
$7000 to $9999	13	37	16	34
$10,000 to $14,999	12	26	28	35†
$15,000 to $19,999	12	27	15	46
$20,000 and over	13	25	24	38
Occupation				
white collar	16	28	18	37†
blue collar	10	32	17	42†
farmer	27*	25*	6*	42*
not employed	9	26	30	36†
other	9	27	22	42
Residence				
city	10	31	20	39
suburb	13	31	24	33†
small town	11	28	15	45†
rural area	13	21	32	35†

@ Secondary analysis of data from FEA, reference 59; for full text of question, see Table 8.

† Percentages do not add to 100% due to rounding error.

* Percentages based on less than 50 cases.

TABLE 25. PERCENT WHO THINK IT IS MORE IMPORTANT TO HAVE STRICT AIR POLLUTION CONTROL LAWS OR TO ALLOW COAL TO BE USED TO MAKE CHEAP ELECTRICITY@

	Strict control	Coal for cheap electricity	Other
Age			
less than 30	49%	42%	9%
30-39	41	53	6
40-49	40	45	14†
50-59	29	53	17†
60 and over	39	58	3
Race			
black	39*	55*	6*
white	40	51	9
Sex			
female	46	50	4
male	37	49	14
Education			
less than 9 years	48*	37*	15*
9-11 years	30*	62*	8*
12 years	41	52	7
more than 12 years	44	46	10
Income			
less than $7000	43	49	8
$7000 to $9999	45	43	12
$10,000 to $14,999	42	47	10†
$15,000 to $19,999	45	45	10
$20,000 and over	36	59	6†
Occupation			
white collar	42	51	7
blue collar	40	44	16
farmer	41*	54*	5*
not employed	41	52	7
other	41	54	4†
Residence			
city	41	46	13
suburb	45	46	9
small town	45	44	11
rural area	31	68	1

@ Secondary analysis of data from FEA, reference 59; for full text of question, see Table 5.

† Percentages do not add to 100% due to rounding error.

* Percentages based on less than 50 cases.

TABLE 26. PERCEIVED SERIOUSNESS OF AIR POLLUTION IN THIS COUNTRY, IN PERCENT@

	Very serious	Somewhat serious	Small problem
Age			
less than 20*	74%*	26%*	0%*
20-29	73	24	3
30-39	65	29	6
40-49	66	29	5
50-64	62	31	7
65 and over	66	28	7†
Race			
black	66	27	8†
Spanish-American	85*	10*	5*
white	66	28	5†
Sex			
female	69	27	4
male	64	29	7
Education			
8 years or less	62	30	8
9-11 years	66	27	7
12 years	67	28	5
13-15 years	68	26	6
16 years or more	68	28	4
Income			
less than $5000	65	29	6
$5000 to $9999	67	24	9
$10,000 to $14,999	68	29	3
$15,000 to $19,999	66	28	6
$20,000 to $24,999	63	33	4
$25,000 or more	69	26	4†

@ Secondary analysis of data from Louis Harris and Associates, reference 64; "Let's turn now to environmental problems. Here's a list of different kinds of environmental problems. For each, would you please tell me if it is a very serious problem, a somewhat serious problem or only a small problem for this country ... air pollution?"

* Percentages based on less than 50 cases.

† Percentages do not add to 100% due to rounding error.

TABLE 26 (continued)

	Very serious	Somewhat serious	Small problem
Occupation			
professional	67%	28%	5%
managers	69	25	6
clerical/sales	64	29	7
skilled	68	27	5
operatives/unskilled	67	28	5
service workers	75*	16*	9*
farmers	36*	60*	4*

* Percentages based on less than 50 cases.

it. In 1976, 8 percent favored and 92 percent opposed. The greater concern of women for health and safety is seen here also, with about twice as many men as women favoring a plant even if it were "declared unsafe." While a substantial majority of people favored a nuclear power plant in their area if a special report by scientists said it was safe, women still tended to be less supportive than men (Table 46). While a majority of men (58 percent) in Illinois favored more nuclear generators, only 38 percent of the women favored them (Table 47). The difference between men and women in Kentucky was smaller, in response to a similar question (Table 28).

Nuclear plants are not the only ones seen as having undesirable effects. Also in 1976, about three-fourths of the respondents in another study agreed that "power plants give off an unusual amount of smoke and fumes that pollute the air" (Table 48). Women were a little more likely to agree with this statement than men. However, social class appeared as a differentiating variable here, where it generally had not been with nuclear power. People with clerical jobs, skilled and unskilled jobs and service workers, incomes less than $15,000 and less than a high school education were more likely to agree with this statement about power plants than others.

Material Comfort

Material comfort is related to conservation in the views of many people. However, not everyone sees the relationship the same way. Some view efforts to conserve very negative, as necessarily inhibiting growth and material comfort, and in some cases as moving back to the dark ages. Others view modest reductions in consumption as not having a major impact on material comfort, and as providing a very satisfactory level of comfort which is less wasteful for a longer time into the future. Thus, how people view material comfort as a value is intertwined with their other values. Therefore, the data considered here are discussed in relation to other values.

TABLE 27. ACCEPTABILITY OF AIR POLLUTION VS. ECONOMIC BENEFITS

	Which is more important@		
	Protect environment	More air pollution	Other
Age			
less than 30	80%	14%	6%
30-39	74	18	8
40-49	75	20	4†
50-59	61	25	14
60 and over	57	26	17
Race			
black	80*	16*	4*
white	69	21	10
Education			
less than 9 years	73*	15*	12*
9-11 years	61*	27*	13*†
12 years	70	25	4†
more than 12 years	75	10	14†
Sex			
female	72	18	10
male	69	22	10†
Income			
less than $7000	65	23	12
$7000 to $9999	72	14	14
$10,000 to $14,999	76	18	6
$15,000 to $19,999	78	16	6
$20,000 and over	70	29	9†
Occupation			
white collar	74	17	9
blue collar	75	18	7
farmer	88*	11*	0*†
not employed	67	20	14†
other	55	34	12†

@ Secondary analysis of data from FEA, reference 59; "To pay for cleaning up the environment, companies will have to charge more for their products and services, and the government will have to increase taxes. Do you think that now it is more important to pay higher prices to protect the environment or to pay lower prices but have more air pollution?"

† Percentages do not add to 100% due to rounding error.

* Percentages based on less than 50 cases.

TABLE 27 (continued)

	Which is more important		
	Protect environment	More air pollution	Other
Residence			
city	72%	15%	12%†
suburb	79	14	7
small town	64	24	11†
rural area	67	29	4

	Favor new industries even if they cause more air pollution#		
	Favor	Oppose	Other
Age			
less than 30	31	66	3
30-39	30	64	6
40-49	39	53	8
50-59	47	47	6
60 and over	42	56	2
Race			
black	30*	70*	0*
white	39	56	5
Education			
less than 9 years	47*	51*	3*†
9-11 years	27*	70*	3*
12 years	39	58	4†
more than 12 years	32	59	9
Sex			
female	39	56	4†
male	35	60	5
Income			
less than $7000	33	64	4†
$7000 to $9999	44	56	0
$10,000 to $14,999	44	50	6
$15,000 to $19,999	20	70	10
$20,000 and over	44	53	3

† Percentages do not add to 100% due to rounding error.

Secondary analysis of data from FEA, reference 59; for full text of question, see Table 8.

* Percentages based on less than 50 cases.

TABLE 27 (continued)

	Favor new industries even if they cause more air pollution		
	Favor	Oppose	Other
Occupation			
white collar	38%	57%	5%
blue collar	38	58	4
farmer	46*	45*	8*+
not employed	36	61	3
other	30	59	11
Residence			
city	37	58	5
suburb	38	56	6
small town	32	62	6
rural area	44	54	2

* Percentages based on less than 50 cases.
+ Percentages do not add to 100% due to rounding error.

Education appears to be the most consistent factor in looking at variations in peoples' views on material comfort. Generally those with more education are less willing to lower their thermostat setting in winter, or raise them in the summer (Table 17). However, in Illinois (Table 19) and Kentucky (Table 49) there is a slight trend in the opposite direction on lowering the temperature in the winter. Changing to smaller living quarters is the more dramatic of these energy saving actions. In Illinois about 70 percent of those with less than a high school education reported presently living in a small house or apartment and in Kentucky about 70 percent were willing to move, but of those with a high school or more education these dropped to about 50 percent in Illinois and 60 percent in Kentucky. Income is also related to willingness to live in a smaller house or apartment. About three-fourths of those with low to modest incomes, $5,000 to $10,000 or less, compared to less than half of those with incomes of $20,000 or more were willing to live in smaller housing. Income also is related to willingness to turn off electricity 5 hours per day or pay $30 more per year, with higher income persons, those with $20,000 or higher incomes, most willing to pay more (Table 50).

There are age differences in views on material comfort, but they are selective. There are not major differences between age groups with regard to lowering the temperature in homes in winter or raising the air conditioning temperature in summer, and the data are not consistent on this (Tables 17, 19 and 63). However, older persons are more willing to consider living in smaller housing than those under 60 years of age. This may be related to younger persons having children in the home and older persons who

TABLE 28. PERCENT WHO SUPPORT DEVELOPING NEW ENERGY SOURCES, AND RETURNING MORE COAL SEVERANCE TAX TO PRODUCING COUNTIES IN KENTUCKY

	More money for new energy sources@	Develop nuclear power as source of energy#	Return coal severance tax to county¢
Age			
less than 20	85	75	79
20-29	85	74	83
30-39	85	77	84
40-49	84	81	81
50-59	86	85	82
60-69	89	87	82
70 and over	83	90	82
Race			
black	82	64	81
white	86	80	82
Sex			
female	86	77	83
male	85	82	81
Education			
8 years or less	86	73	84
9-11 years	84	78	78
12 years	87	79	83
13-15 years	85	86	83
16 years or more	83	83	83
Income			
less than $5000	83	70	83
$5000 - $8999	85	78	83
$9000 - $14,999	87	81	82
$15,000 - $19,000	86	86	81
$20,000 - $24,999	86	85	80
$25,000 or more	79	86	80

@Secondary analysis of data from Kentucky, reference 52; for full text of question see Table 5.

#Secondary analysis of data from Kentucky, reference 52; "Here is a list of important issues which you and other Kentuckians might have talked about. We would like your opinion about each issue...Should we try to develop nuclear power as a source of energy?"

¢Secondary analysis of data from Kentucky, reference 52; for full text of question see Table 6.

TABLE 28 (CONTINUED)

	More money for new energy sources@	Develop nuclear power as source of energy#	Return coal severance tax to county¢
Occupation			
professional	84	84	81
managers	85	88	82
sales workers	84	85	80
clerical worker	88	81	80
craftsmen	85	82	80
operatives	87	74	85
laborers	88	71	83
farmers, farm managers, laborers	85	79	81
service workers	88	71	82
Residence			
Northern Ky. metro area	84	84	78
Louisville metro area	83	82	77
Lexington metro area	85	80	82
10,000 - 49,999	87	86	81
2500 - 9999	87	80	80
town less than 2500	87	75	86
open country	86	78	87
farm	84	75	85

@Secondary analysis of data from Kentucky, reference 52; for full text of question see Table 5.

#Secondary analysis of data from Kentucky, reference 52; "Here is a list of important issues which you and other Kentuckians might have talked about. We would like your opinion about each issue...Should we try to develop nuclear power as a source of energy?"

¢Secondary analysis of data from Kentucky, reference 52; for full text of question see Table 6.

TABLE 29. ACCEPTABILITY OF A NUCLEAR POWER PLANT BEING LOCATED IN THIS AREA, IF ELECTRIC RATES WOULD NOT GO UP, IN PERCENT@

	March, 1975		July, 1976	
	favor	oppose	favor	oppose
Age				
less than 20	76%	24%	77%	23%
20-29	81	19	75	25
30-39	83	17	73	27
40-49	87	13	73	27
50-64	83	17	78	22
65 and over	85	15	83	17
Race				
black	86	14	75	25
Mexican-American	85*	15*	63*	37*
white	82	18	77	23
Sex				
female	80	20	72	28
male	86	14	81	19
Education				
8 years or less	89	11	81	19
9-11 years	80	20	76	24
12 years	84	16	78	22
13-15 years	81	19	73	27
16 years or more	79	21	74	26
Income				
less than $5000	83	17	72	28
$5000 - 9999	82	18	73	27
$10,000 - 14,999	84	16	76	24
$15,000 - 19,999	85	15	80	20
$20,000 - 24,999	78	22	80	20
$25,000 or more	82	18	85	15
Occupation				
professional	76	24	73	27
managers	87	13	84	16
clerical/sale	79	21	80	20
skilled	87	13	76	24
operatives/unskilled	81	19	72	28
service workers	79*	21*	78*	22*
farmers	92*	8*	79*	21*

@Secondary analysis of the data from Louis Harris and Associates, references 61 and 62; for full text of question see Table 5.
*Percentages based on less than 50 cases.

TABLE 30. WILLINGNESS OF ILLINOIS RESIDENTS FOR TAXES TO BE SPENT FOR NEW INDUSTRY AND ASSISTING LOW INCOME PEOPLE WITH HEATING BILLS, IN PERCENT

	Attract new industry@		Assist low income persons#	
	yes	no	yes	no
Age				
less than 20	54%	46%	54%	46%
20-29	63	37	57	43
30-39	75	25	57	43
40-49	71	29	54	46
50-59	78	22	64	36
60-69	80	20	76	24
70 and over	85	15	79	21
Race				
black	76	24	74	26
white	73	27	62	38
Sex				
female	70	30	64	36
male	76	24	60	40
Education				
8 years or less	75	25	79	21
9-11 years	80	20	75	25
12 years	74	26	59	41
13-15 years	67	33	58	42
16 years or more	68	32	54	46
Income				
less than $5000	76	24	75	25
$5000 - 8999	76	24	73	27
$9000 - $14,999	75	25	63	27
$15,000 - 19,000	69	31	62	38
$20,000 - 24,999	74	26	57	43
$25,000 or more	71	29	49	51

@Secondary analysis of data from Illinois, reference 49; for full text of question see Table 11.

#Secondary analysis of data from Illinois, reference 49; for full text of question see Table 6.

TABLE 30 (CONTINUED)

	Attract new industry@		Assist low income persons#	
	yes	no	yes	no
Occupation				
professional	72	28	58	42
managers	77	23	52	48
farmers and farm mgrs.	65	35	45	55
sales workers	82	18	69	31
craftsmen	74	26	67	33
operatives	78	22	67	33
service workers	77	23	68	32
laborers, incl. farm	75	25	66	34
clerical workers	71	29	62	38
Residence				
50,000 or more	75	25	61	39
10,000 - 49,999	73	27	60	40
2500 - 999	76	24	68	32
town less than 2500	72	28	68	32
open country	74	26	64	36
farm	66	34	53	47

@Secondary analysis of data from Illinois, reference 49; for full text of question see Table 11.

#Secondary analysis of data from Illinois, reference 49; for full text of question see Table 6.

are retired living on a reduced or fixed income. In contrast, however, older persons are somewhat more likely to say that sharing in a high standard of living has been a major factor "in making America great," 75 percent of those over 40 compared to 65 percent of those under 40 (Table 51).

There is less consistency in the relationship between social and demographic variables and material comfort than with most other values. This may indicate that while the majority of people are willing to engage in conserving energy resources and to reduce material comfort, there is uncertainty in how people expect to be affected by those changes. For example, reducing fuel consumption in the home not only affects material comfort, but may have economic benefits. But if prices rise people may not perceive that benefit to be there. And for some persons there may be an important choice to be made between material comfort and health.

TABLE 31. RATING OF GOVERNMENT THAT LOOKS AFTER THE LESS FORTUNATE AS A FACTOR IN MAKING AMERICA GREAT, IN PERCENT@

	Major factor	Minor factor	Hardly at all
Age			
less than 20	56%	28%	16%
20-29	45	39	16
30-39	46	40	14
40-49	50	34	16
50-64	52	35	13
65 and over	57	30	13
Race			
black	57	27	16
Spanish-American	58	27	15
white	49	37	14
Sex			
female	52	35	12+
male	48	35	17
Education			
8 years or less	61	25	14
9-11 years	59	26	15
12 years	53	35	12
13-15 years	46	38	16
16 years or more	35	49	16
Income			
less than $5000	57	26	17
$5000 - 9999	53	34	13
$10,000 - 14,999	50	37	13
$15,000 - 19,999	45	41	14
$20,000 - 24,999	37	46	18+
$25,000 or more	41*	48*	10*+

@Secondary analysis of data from Louis Harris and Associates, reference 82; for full text of question see Table 6.
*Percentages based on less than 50 cases.
+Percentages do not add to 100% due to rounding error.

TABLE 31 (CONTINUED)

	Major factor	Minor factor	Hardly at all
Occupation			
professional	40%	44%	16%
managers	46	42	13+
clerical/sales	48	38	13+
skilled	52	34	14
operatives/unskilled	59	26	15
service workers	48	36	16
farmers	46*	39*	16*+

*Percentages based on less than 50 cases.
+Percentages do not add to 100% due to rounding error.

Nationalism

Nationalism implies the idea of energy independence, or that the United States should not be dependent on foreign sources of energy, particularly oil. The majorities in two national surveys in 1975 and 1976 favored becoming independent from foreign energy sources. In two of those surveys overall 84 percent said they "would like to see the U.S. become totally independent of all foreign sources of energy" (Table 10). Those with less education and older persons were more likely to favor total independence (Table 52). However, in two other surveys in 1975 (Table 53), those with less education were more often in favor of importing more oil. Combining the two surveys (in Table 53), only 51 percent of those with less than a high school education opposed importing more oil, compared to 71 percent of those with at least some college education. Majorities of farmers and blacks also favored importing more oil. However, rural area residents, including farmers and non-farmers, did not differ much from the overall average of about 60 percent who oppose more imported oil. None of the other social and demographic variables show much systematic variation. Thus, there appears generally to be a nationalistic preference for energy independence, without consistent variation across social and demographic factors.

Progress/Growth

There is some variation across social and demographic factors in views of the importance of progress and growth. However, there does not appear to be any particular pattern to these variations. That is, while age and education are related to some questions asked about progress and growth, (a) those differences are not large, and (b) the differences do not appear consistently, all or most of the time. Consequently, the overall picture appears as one in which progress and growth are favored only under selected conditions and opposed under other conditions.

TABLE 32. PERCENT WHO FEEL VOLUNTARY CUT BACK ON ENERGY WILL BE ENOUGH VS. NEED GOVERNMENT TO TAKE STRONGER MEASURES@

	Voluntary cutback enough	Need stronger government measures
Age		
less than 20	63%	37%
20-29	50	50
30-39	49	51
40-49	64	36
50-64	61	39
65 and over	65	35
Race		
black	53	47
Spanish-American	52*	48*
white	58	42
Sex		
female	57	43
male	57	43
Education		
8 years or less	61	39
9-11 years	62	38
12 years	62	38
13-15 years	52	48
16 years or more	46	54
Income		
less than $5000	60	40
$5000 - 9999	62	38
$10,000 - 14,999	57	43
$15,000 - 19,999	47	53
$20,000 - 24,999	58	42
$25,000 or more	46	54
Occupation		
professional	48	52
managers	65	35
clerical/sales	53	47
skilled	58	42
operatives/unskilled	57	43
service workers	52*	48*
farmers	73*	27*

@Secondary analysis of data from Louis Harris and Associates, reference 60; for full text of question see Table 7.

*Percentages based on less than 50 cases.

TABLE 33. ACCEPTABILITY OF ENVIRONMENTAL REGULATIONS CLOSING A PLANT VS. MAKING AN EXCEPTION TO THE REGULATIONS, IN PERCENT@

	Make exception	It depends	Close plant
Age			
less than 20	28%	16%	56%
20-29	18	21	61
38-39	24	24	53+
40-49	24	24	52
50-64	31	21	48
65 and over	27	27	46
Race			
black	40	16	43+
Spanish-American	16*	31*	53*
white	24	23	53
Sex			
female	21	22	58+
male	29	23	48
Education			
8 years or less	34	20	46
9-11 years	32	20	48
12 years	24	22	53+
13-15 years	21	21	57+
16 years or more	21	26	54+
Income			
less than $5000	25	18	57
$5000 - 9999	31	25	44
$10,000 - 14,999	20	22	57+
$15,000 - 19,999	23	25	51+
$20,000 - 24,999	24	20	56
$25,000 or more	26	21	53

@Secondary analysis of data from Louis Harris and Associates, reference 64; "If a company decided to close down a plant because it felt that the cost of pollution control was too high, do you feel that the government environmental agency should make an exception for the company and allow it to meet lower environmental standards, or insist that it meet the regular standards and have it close down."

*Percentages based on less than 50 cases.

+Percentages do not add to 100% due to rounding error.

TABLE 33 (CONTINUED)

	Make exception	It depends	Close plant
Occupation			
professional	20%	30%	51+
managers	24	16	60
clerical/sales	22	21	57
skilled	28	25	47
operatives/unskilled	31	19	50
service workers	27	19	54
farmers	31	26	44+

@Secondary analysis of data from Louis Harris and Associates, reference 64; "If a company decided to close down a plant because it felt that the cost of pollution control was too high, do you feel that the government environmental agency should make an exception for the company and allow it to need lower environmental standards, or insist that it need the regular standards and have it close down."

+Percentages do not add to 100% due to rounding error.

This point can be illustrated briefly by age. In Illinois about 60 percent of those under 30 are willing to see tax dollars used to attract new industry, as are 82 percent of those 60 and older (Table 30). In Kentucky, only 42 percent of those under 40 favored spending more tax dollars for attracting new industry, compared to about 55 percent of those 40 and older (Table 38). In a nation-wide study, about 65 percent of those less than 40 oppose new industry "... such as steel mills and power plants ..." coming into their state if they caused more air pollution, compared to 52 percent of those 40 and over who oppose new industry under that condition (Table 27). In these three cases older persons were more favorable to new industry than younger people. However, in other cases this age difference did not appear. For example, in Table 54, the differences across age categories are small and not very consistent, with a strong majority favoring a nuclear power plant that brings new industry and jobs to their area.

In addition the position of the majority shifts, as seen in the above example. The majority generally favor new industry and new energy sources when the question is asked in the context of new jobs, but when they pose problems, such as causing pollution, the majority reduces to a minority.

TABLE 34. ACCEPTABILITY OF A TAX INCENTIVE TO OIL COMPANIES TO INCREASE PRODUCTION@

	August 4-16, 1975			
	Strongly favor	Mildly favor	Mildly oppose	Strongly oppose
Age				
less than 30	19%	28%	21%	32%
30-39	24	22	18	36
40-49	22	16	18	44
50-59	16	23	11	50
60 and over	19	13	27	42+
Race				
black	37*	25*	13*	26*+
white	18	21	20	41
Sex				
female	21	27	22	30
male	19	15	16	50
Education				
less than 9 years	28*	4*	26*	42*
9-11 years	23	24	14	39
12 years	15	25	18	43+
more than 12 years	21	23	20	36
Income				
less than $7000	24	15	25	37+
$7000 to $9999	23	25	11	41
$10,000 to $14,999	16	20	18	46
$15,000 to $19,999	17	28	13	42
$20,000 and over	16	27	22	35

@Secondary analysis of data from FEA, reference 59; "There have been many suggestions made for improving the energy situation. As I read these suggestions, please tell me if you strongly favor it, mildly favor it, mildly oppose it, or strongly oppose it. First of all...a tax incentive should be given to oil companies for more oil production and exploration."

*Percentages based on fewer than 50 cases.

+Percentages do not add to 100% due to rounding error.

TABLE 34 (CONTINUED)

	August 4-16, 1975			
	Strongly favor	Mildly favor	Mildly oppose	Strongly oppose
Occupation				
white collar	15%	23%	22%	40%
blue collar	22	22	8	48
farmer	12*	0*	75*	13*
not employed	24	18	20	39+
other	17*	32*	28*	23*
Residence				
city	20	20	23	36+
suburb	16	27	15	42
small town	25	20	13	43+
rural area	17	15	28	41+

@Secondary analysis of data from FEA, reference 59; "There have been many suggestions made for improving the energy situation. As I read these suggestions, please tell me if you strongly favor it, mildly favor it, mildly oppose it, or strongly oppose it. First of all...a tax incentive should be given to oil companies for more oil production and exploration."

*Percentages based on fewer than 50 cases.

+Percentages do not add to 100% due to rounding error.

TABLE 34 (CONTINUED)

	August 19-29, 1975			
	Strongly favor	Mildly favor	Mildly oppose	Strongly oppose
Age				
less than 30	16%	43%	18%	23%
30-39	19	20	25	36
40-49	20	30	15	35
50-59	21	20	15	44
60 and over	19	34	16	30+
Race				
black	16*	48*	17*	20*+
white	19	28	18	34+
Sex				
female	19	38	16	27
male	18	25	20	37
Education				
less than 9 years	26*	28*	18*	27*+
9-11 years	10	38	15	38+
12 years	20	31	17	32
more than 12 years	16	30	20	33+
Income				
less than $7000	21	30	18	31
$7000 to $9999	21	28	23	28
$10,000 to $14,999	15	31	13	41
$15,000 to $19,999	17	43	16	24
$20,000 and over	16	30	23	31

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[a] Secondary analysis of data from FEA, reference 33; "There have been many suggestions made for improving the energy situation. As I read these suggestions, please tell me if you strongly favor it, mildly favor it, mildly oppose it, or strongly oppose it. First of all...a tax incentive should be given to oil companies for more oil production and exploration."

*Percentages based on fewer than 50 cases.

+Percentages do not add to 100% due to rounding error.

TABLE 34 (CONTINUED)

	August 19-29, 1975			
	Strongly favor	Mildly favor	Mildly oppose	Strongly oppose
Occupation				
white collar	19%	34%	15%	32%
blue collar	20	27	19	34
farmer	0*	8*	32*	61*+
not employed	19	36	19	26
other	20*	27*	13*	39*+
Residence				
city	20	27	22	31
suburb	17	34	19	30
small town	22	33	14	31
rural area	11	35	13	41

@Secondary analysis of data from FEA, reference 59; "There have been many suggestions made for improving the energy situation. As I read these suggestions, please tell me if you strongly favor it, mildly favor it, mildly oppose it, or strongly oppose it. First of all...a tax incentive should be given to oil companies for more oil production and exploration."
*Percentages based on fewer than 50 cases.
+Percentages do not add to 100% due to rounding error.

TABLE 35. WILLINGNESS TO REMOVE PRICE REGULATIONS AND RELY ON FREE COMPETITION TO DETERMINE WHAT THE PRICE OF ENERGY WILL BE, IN PERCENT@

	March, 1976		April, 1976	
	favor	oppose	favor	oppose
Age				
less than 30	49%	51%	55%	45%
30-39	54	46	47	53
40-49	48	52	45	55
50-59	67	33	58	42
60 and over	60	40	62	38
Race				
black	54*	46*	58*	42*
white	56	44	52	48
Sex				
female	54	46	49	51
male	56	44	59	41
Education				
less than 9 years	52*	48*	55*	45*
9-11 years	65	35	50	50
12 years	55	45	53	47
more than 12 years	50	50	56	44
Income				
less than $7000	52	48	59	41
$7000 to $999	53	47	51	49
$10,000 to $14,999	60	40	45	55
$15,000 to $19,999	55	45	38	62
$20,000 and over	52	48	67	33

@Secondary analysis of data from FEA, reference 59; for full text of question see Table 5.

*Percentages based on fewer than 50 cases.

TABLE 35 (CONTINUED)

	March, 1976		April, 1976	
	favor	oppose	favor	oppose
Occupation				
white collar	53%	47%	54%	46%
blue collar	56	45	41	59
farmer	100*	0*	29*	71*
not employed	54	46	59	41
other	60*	40*	76*	24*
Residence				
city	52	48	54	56
suburb	65	35	56	44
small town	49	51	55	45
rural area	54	46	47	53

@Secondary analysis of data from FEA, reference 59; for full text of question see Table 5.

*Percentages based on fewer than 50 cases.

TABLE 36. ACCEPTABILITY OF PASSING AND ENFORCING LAWS TO SAVE ENERGY VS. PEOPLE VOLUNTARILY SAVING ENOUGH ENERGY, IN PERCENT@

	March, 1976		April, 1976	
	pass laws	voluntary	pass laws	voluntary
Age				
less than 30	28%	72%	28%	72%
30-39	33	67	33	67
40-49	24	76	27	73
50-59	28	72	18	82
60 and over	22	78	20	80
Race				
black	32*	68*	24*	76*
white	25	75	27	73
Sex				
female	26	74	20	80
male	27	73	32	68
Education				
less than 9 years	34*	66*	17*	83*
9-11 years	23	78	19	81
12 years	19	81	27	73
more than 12 years	36	64	35	65
Income				
less than $7000	28	72	21	79
$7000 to $9999	26	74	18	82
$10,000 to $14,999	27	73	28	72
$15,000 to $19,999	26	74	29	71
$20,000 and over	32	68	34	66

@Secondary analysis of data from FEA, reference 59; for full text of question see Table 7.
*Percentages based on fewer than 50 cases.

TABLE 36 (CONTINUED)

	March, 1976		April, 1976	
	pass laws	voluntary	pass laws	voluntary
Occupation				
white collar	26%	74%	25%	75%
blue collar	30	70	22	78
farmer	0*	100*	24*	76*
not employed	26	74	31	69
other	29*	71*	14*	86*
Residence				
city	26	74	30	70
suburb	30	70	26	74
small town	29	71	22	78
rural area	20	80	23	77

@Secondary analysis of data from FEA, reference 59; for full text of question see Table 7.
*Percentages based on fewer than 50 cases.

TABLE 37. PERCEIVED IMPORTANCE OF STRICT LAWS REGULATING STRIP MINING OR GETTING COAL AT CHEAPEST POSSIBLE COST, IN PERCENT@

	October, 1974		November, 1974	
	strict laws	cheap coal	strict laws	cheap coal
Age				
less than 30	68%	32%	50%	50%
30-49	69	31	69	31
50 and over	52	48	48	52
Race				
black	34*	66*	45*	55*
white	66	34	58	42
Sex				
female	63	37	58	42
male	63	37	53	46
Education				
less than 9 years	49*	51*	32*	68*
9-11 years	62	38	43	57
12 years	65	35	55	45
more than 12 years	74	26	82	18
Income				
less than $7000	61	39	40	66
$7000 to $9999	56	44	39	61
$10,000 to $14,999	62	38	68	32
$15,000 to $19,999	66	34	72	28
$20,000 and over	63	37	79	21
Residence				
city	61	39	52	48
suburb	67	33	66	34
small town	67	33	57	43
rural area	56	44	51	49

@Secondary analysis of data from FEA, reference 59; for full text of question see Table 5.

*Percentages based on less than 50 cases.

TABLE 37 (CONTINUED)

	December, 1974	
	strict laws	cheap coal
Age		
less than 30	55%	45%
30-49	55	45
50 and over	44	56
Race		
black	38*	62*
white	52	48
Sex		
female	45	55
male	56	44
Education		
less than 9 years	26*	74*
9-11 years	41	59
12 years	57	43
more than 12 years	66	34
Income	(not asked in this survey)	
Residence	(not asked in this survey)	

*Percentages based on less than 50 cases.

TABLE 38. PREFERENCE FOR STATE AND LOCAL GOVERNMENT TO SPEND MORE OR LESS TAX MONEY FOR ATTRACTING AND DEVELOPING INDUSTRY IN KENTUCKY, IN PERCENT@

	Less	Same	More
Age			
less than 20	25%	40%	35%
20-29	20	40	39+
30-39	10	42	48
40-49	10	34	56
50-59	10	32	57+
60-69	6	41	52+
70 and over	7	38	55
Race			
black	13	42	45
white	13	38	49
Sex			
female	13	41	46
male	12	35	53
Education			
8 years or less	9	32	60+
9-11 years	8	41	51
12 years	12	40	49+
13-15 years	18	39	43
16 years or more	20	42	38
Income			
less than $5000	11	33	55+
$5000 - $8999	12	37	51
$9000 - $14,999	12	41	47
$15,000 - $19,999	14	39	48+
$20,000 - $24,999	15	38	47
$25,000 or more	19	40	41

@Secondary analysis of data from Kentucky, reference 52; for full text of question see Table 11.

+Percentages do not add to 100% due to rounding error.

TABLE 38 (CONTINUED)

	Less	Same	More
Occupation			
professional	19%	41%	40%
managers	13	41	46
sales workers	15	47	38
clerical worker	21	43	36
craftsmen	10	39	51
operatives	7	34	59
laborers	10	41	50+
farmers, farm managers, laborers	12	38	49+
service workers	16	36	48
Residence			
Northern Ky. metro area	17	48	35
Louisville metro area	19	47	34
Lexington metro area	31	44	25
10,000 - 49,999	13	39	48
2500 - 9999	7	39	54
town less than 2500	6	31	62+
open country	10	31	59
farm	11	35	54

@Secondary analysis of data from Kentucky, reference 52; for full text of question see Table 11.
+Percentages do not add to 100% due to rounding error.

TABLE 39. PREFERENCE FOR STATE AND LOCAL GOVERNMENT TO SPEND MORE OR LESS TAX MONEY TO CLEAN UP AIR AND WATER POLLUTION IN KENTUCKY, IN PERCENT[@]

	Clean up polluted air			Clean up polluted water		
	less	same	more	less	same	more
Age						
less than 20	6%	35%	60%†	7%	32%	61%
20-29	8	40	52	3	42	55
30-39	6	40	53†	3	42	56†
40-49	9	42	49	2	43	55
50-59	6	41	53	4	37	59
60-69	6	42	52	2	38	60
70 and over	10	41	49	8	35	57
Race						
black	6	38	56	4	36	60
white	8	40	52	3	40	57
Sex						
female	7	40	53	3	43	54
male	8	40	52	4	36	60
Education						
8 years or less	10	42	48	6	37	57
9-11 years	6	38	56	4	38	58
12 years	8	42	50	3	43	53†
13-15 years	7	40	53	3	39	58
16 years or more	5	38	57	1	38	61
Income						
less than $5000	9	41	50	6	37	57
$5000 to $8999	9	44	47	3	43	54
$9000 to $14,999	6	42	52	2	42	56
$15,000 to $19,999	6	38	56	2	36	61†
$20,000 to $24,999	4	36	60	1	41	58
$25,000 or more	10	40	50	2	39	59

@Secondary analysis of data from Kentucky, reference 52; "State and local governments in Kentucky spend tax money for many services and programs. Please circle the word that best shows whether you feel that more, less, or the same amount of tax money should be spent in the areas listed below. Remember, if you feel that more money should be spent on some programs and services, less tax money will have to be spent in other areas unless taxes are increased...Cleaning up polluted air;...Cleaning up polluted water."

†Percentages do not add to 100% due to rounding error.

TABLE 39 (continued)

	Clean up polluted air			Clean up polluted water		
	less	same	more	less	same	more
Occupation						
professional	5%	37%	59%†	1%	38%	60%†
managers	7	41	52	2	38	59†
sales workers	7	40	54†	2	40	59†
clerical worker	7	37	56	3	45	52
craftsmen	8	40	52	3	41	56
operatives	7	46	47	4	41	55
laborers	6	44	50	2	43	54†
farmers, farm managers, laborers	14	46	40	6	47	47
service workers	8	32	60	3	38	59
Residence						
Northern Kentucky metro area	3	32	65	3	39	58
Louisville metro area	3	22	75	1	31	68
Lexington metro area	7	41	52	3	40	57
10,000 to 49,999	6	48	46	1	48	51
2500 to 9999	7	47	46	4	45	52†
town less than 2500	8	47	45	2	41	57
open country	11	44	45	4	39	57
farm	12	45	42†	7	43	50

† Percentages do not add to 100% due to rounding error.

TABLE 40. ACCEPTABILITY OF STRIP MINING IN KENTUCKY, IN PERCENT RESPONDING "YES"@

	Ban strip mining	Allow strip mines if land restored	More of coal severance tax returned to coal producing counties
Age			
less than 20	37%	89%	79%
20-29	30	89	83
30-39	25	91	84
40-49	33	88	81
50-59	28	88	82
60-69	30	91	82
70 and over	30	94	82
Race			
black	36	82	81
white	29	90	82
Sex			
female	33	89	83
male	25	90	81
Education			
8 years or less	28	89	84
9-11 years	30	89	78
12 years	30	90	83
13-15 years	27	91	83
16 years or more	32	88	82
Income			
less than $5000	34	84	83
$5000 to $8999	33	92	83
$9000 to $14,999	26	91	82
$15,000 to $19,999	26	93	81
$20,000 to $24,999	27	89	80
$25,000 or more	25	86	80

@Secondary analysis of data from Kentucky, reference 52; "Here is a list of important issues which you and other Kentuckians might have talked about. We would like your opinion about each issue...Should strip mining be banned? Should strip mining be allowed under the condition that mining companies restore land they strip mine?...Should more of the Coal Severance Tax money be returned to the coal producing counties?"

TABLE 40 (continued)

	Ban strip mining	Allow strip mines if land restored	More of coal severance tax returned to coal producing counties
Occupation			
professional	30%	89%	81%
managers	26	91	82
sales workers	27	90	80
clerical worker	35	88	80
craftsmen	30	90	80
operatives	27	90	85
laborers	33	88	83
farmers, farm managers, laborers	21	92	81
service workers	32	89	82
Residence			
Northern Kentucky metro area	41	86	78
Louisville metro area	39	88	77
Lexington metro area	34	90	82
10,000 to 49,999	23	90	81
2500 to 9999	28	89	80
town less than 2500	28	88	86
open country	27	91	87
farm	22	92	85

TABLE 41. PERCENT WHO FAVOR SPECIFIED GOVERNMENTAL ACTIONS WITH REGARD TO BUSINESSES[@]

	Take over most big business	Create big business to compete	Take over all electric utilities
Age			
less than 20	20%	22%	29%
20-29	12	14	22
30-39	12	16	24
40-49	12	14	19
50-64	7	11	12
65 and over	11	16	17
Race			
black	22	30	35
Mexican-American	13*	13*	13*
white	9	12	17
Sex			
female	11	14	19
male	11	15	20
Education			
8 years or less	18	21	20
9-11 years	17	23	25
12 years	8	13	14
13-15 years	10	8	20
16 years or more	11	10	22
Income			
less than $5000	16	18	21
$5000 to $9999	14	19	25
$10,000 to $14,999	8	12	15
$15,000 to $19,999	8	12	18
$20,000 to $24,999	10	8	18
$25,000 or more	6	7	16
Occupation			
professional	12	10	21
managers	8	12	17
clerical/sales	6	10	19
skilled	7	12	17
operatives/unskilled	18	24	25
service workers	18	19	20
farmers	7*	12*	9*

[@] Secondary analysis of data from Louis Harris and Associates, reference 61; for full text of questions see Table 7.

* Percentages based on less than 50 cases.

TABLE 41 (continued)

	Taking over electric utilities in financial trouble	Creating government owned oil corporation	Creating government owned nuclear power corporation
Age			
less than 20	63%	34%	38%
20-29	46	30	32
30-39	39	29	33
40-49	37	29	30
50-64	34	23	23
65 and over	40	28	28
Race			
black	50	45	46
Mexican-American	32*	24*	26*
white	40	25	27
Sex			
female	41	26	28
male	41	30	31
Education			
8 years or less	42	30	31
9-11 years	47	38	37
12 years	40	25	29
13-15 years	34	22	24
16 years or more	43	30	30
Income			
less than $5000	44	32	34
$5000 to $9999	42	32	36
$10,000 to $14,999	42	27	71
$15,000 to $19,999	40	29	72
$20,000 to $24,999	35	23	75
$25,000 or more	38	15	82
Occupation			
professional	43	29	31
managers	36	19	24
clerical/sales	39	28	26
skilled	43	27	27
operatives/unskilled	44	34	37
service workers	39	36	40
farmers	15*	20*	24*

* Percentages based on less than 50 cases.

TABLE 42. IMPORTANCE OF SELECTED ACTIONS FOR IMPROVING QUALITY OF LIFE, IN PERCENT@

	Curbing air pollution		
	Very important	Somewhat important	Hardly important
Age			
less than 20	77%	22%	2%†
20-29	76	22	2
30-39	68	27	5
40-49	70	27	3
50-64	69	26	6†
65 and over	69	22	9
Race			
black	72	20	8
Spanish-American	80*	15*	5*
white	70	26	4
Sex			
female	76	21	4†
male	66	28	6
Education			
8 years or less	63	27	10
9-11 years	72	24	4
12 years	70	25	4†
13-15 years	72	24	3†
16 years or more	72	24	4
Income			
less than $5000	68	24	7†
$5000 to $9999	74	19	7
$10,000 to $14,999	75	23	3†
$15,000 to $19,999	67	30	3
$20,000 to $24,999	66	34	1†
$25,000 or more	69	26	6†
Occupation			
professional	69	27	4
managers	71	24	4†
clerical/sales	72	22	7†
skilled	68	28	4
operatives/unskilled	73	22	5

@ Secondary analysis of data from Louis Harris and Associates, reference 64; for full text of question see Table 8.

† Percentages do not add to 100% due to rounding error.

* Percentages based on less than 50 cases.

TABLE 42 (continued)

	Curbing air pollution		
	Very important	Somewhat important	Hardly important
service workers	78%	18%	4%
farmers	47*	41*	12*

	Curbing water pollution		
	Very important	Somewhat important	Hardly important
Age			
less than 20	77	22	2†
20-29	83	16	2†
30-39	77	21	2
40-49	80	17	3
50-64	82	15	3
65 and over	77	17	6
Race			
black	68	22	10
Spanish-American	88*	5*	8*†
white	80	17	2†
Sex			
female	84	14	2
male	76	21	3
Education			
8 years or less	73	20	7
9-11 years	80	17	4†
12 years	81	16	3
13-15 years	83	16	2†
16 years or more	79	20	2†
Income			
less than $5000	75	18	7
$5000 to $9999	80	15	4†
$10,000 to $14,999	82	17	1
$15,000 to $19,999	77	21	2
$20,000 to $24,999	76	22	2
$25,000 or more	81	16	2†
Occupation			
professional	75	23	2

* Percentages based on less than 50 cases.
† Percentages do not add to 100% due to rounding error.

TABLE 42 (continued)

	Curbing water pollution		
	Very important	Somewhat important	Hardly important
managers	85%	12%	3%
clerical/sales	81	17	2
skilled	81	16	3
operatives/unskilled	79	18	3
service workers	85	10	5
farmers	60*	33*	6*
	Making products and services safer		
	Very important	Somewhat important	Hardly important
Age			
less than 20	75	22	3
20-29	70	26	4
30-39	67	28	5
40-49	71	25	4
50-64	72	22	6
65 and over	74	22	5†
Race			
black	74	21	4†
Spanish-American	88*	10*	2*
white	70	25	5
Sex			
female	75	22	3
male	67	27	6
Education			
8 years or less	73	20	8†
9-11 years	76	22	2
12 years	74	22	4
13-15 years	71	25	4
16 years or more	62	32	6
Income			
less than $5000	74	20	6
$5000 to $9999	72	23	4†
$10,000 to $14,999	77	20	4†
$15,000 to $19,999	68	27	5
$20,000 to $24,999	64	32	4

* Percentages based on less than 50 cases.
† Percentages do not add to 100% due to rounding error.

TABLE 42 (continued)

	Making products and services safer		
	Very important	Somewhat important	Hardly important
$25,000 or more	61%	34%	6%†
Occupation			
professional	63	31	6
managers	70	28	2
clerical/sales	75	22	3
skilled	75	21	4
operatives/unskilled	75	19	6
service workers	75	22	3
farmers	51*	40*	8*†

	Enforce safe working conditions		
	Very important	Somewhat important	Hardly important
Age			
less than 20	80	19	2†
20-29	76	21	3
30-39	67	26	7
40-49	74	23	3
50-64	76	22	3†
65 and over	77	17	6
Race			
black	79	20	1
Spanish-American	90*	10*	0*
white	73	22	5
Sex			
female	77	20	3
male	71	24	5
Education			
8 years or less	74	23	4†
9-11 years	85	14	1
12 years	75	21	4
13-15 years	76	20	5†
16 years or more	66	28	6
Income			
less than $5000	74	20	5†

† Percentages do not add to 100% due to rounding error.
* Percentages based on less than 50 cases.

TABLE 42 (CONTINUED)

	Enforce safe working conditions		
	Very important	Somewhat important	Hardly important
$5000 - 9999	82%	15%	3%
$10,999 - 14,999	78	19	3
$15,000 - 19,999	67	26	7
$20,000 - 24,999	62	34	4
$25,000 or more	67	30	4†
Occupation			
professional	67	25	8
managers	70	27	3
clerical/sales	73	25	1†
skilled	80	17	4†
operatives/unskilled	79	18	3
service workers	84	14	2
farmers	41*	54*	4*†

*Percentages based on less than 50 cases.
†Percentages do not add to 100% due to rounding error.

TABLE 43. PERCENT WHO FAVOR OR OPPOSE CUTTING FEDERAL SPENDING FOR HEALTH AND FOR PRODUCT SAFETY@

	Cut spending on health		Cut spending on product safety	
	favor	oppose	favor	oppose
Age				
less than 20	10%	90%	40%	60%
20-29	8	92	26	74
30-39	17	83	31	69
40-49	15	85	30	70
50-64	19	81	34	66
65 and over			30	70
Race				
black	7	93	16	84
Spanish-American	10*	90*	18*	82*
white	15	85	33	67
Sex				
female	12	88	27	73
male	17	83	34	66
Education				
8 years or less	17	83	26	74
9-11 years	7	9~~2~~ 3	19	81
12 years	12	88	32	68
13-15 years	16	84	30	70
16 years or more	18	82	40	60
Income				
less than $5000	8	92	24	76
$5000 - 9999	12	88	27	73
$10,000 - 14,999	13	87	31	69
$15,000 - 19,999	17	83	32	68
$20,000 - 24,999	22	78	45	55
$25,000 or more	17	83	32	68
Occupation				
professional	17	83	39	61
managers	18	82	31	69
clerical/sales	13	87	29	71
skilled	12	88	29	71
operatives/unskilled	9	91	24	76
service workers	14	86	26	74
farmers	30*	70*	38*	62*

@Secondary analysis of data from Louis Harris and Associates, reference 64; for full text of question see Table 8.
*Percentages based on less than 50 cases.

TABLE 44. PERCEIVED SAFETY OF NUCLEAR POWER PLANTS THAT PRODUCE ELECTRIC POWER, IN PERCENT@

	March 1975			
	very safe	somewhat safe	not so safe	dangerous
Age				
less than 20	24%	57%	17%	2%
20-29	29	47	18	7
30-39	26	49	15	9
40-49	40	41	14	6
50-64	36	44	11	9
65 and over	31	47	18	3
Race				
black	21	48	21	10
Mexican-American	17*	62*	14*	7*
white	33	46	14	6
Sex				
female	19	54	19	8
male	43	40	12	6
Education				
8 years or less	34	44	18	4
9-11 years	23	50	20	7
12 years	28	51	15	6
13-15 years	37	40	15	8
16 years or more	37	44	12	8
Income				
less than $5000	27	51	17	7
$5000 - 9999	29	44	21	6
$10,000 - 14,999	34	46	14	6
$15,000 - 19,999	31	50	13	6
$20,000 - 24,999	32	51	13	4
$25,000 or more	43	42	6	10
Occupational				
professional	30	49	13	8
managers	40	42	12	5
clerical/sales	36	42	14	9
skilled	34	46	14	6
operatives/unskilled	24	49	20	7
service workers	24	48	17	11
farmers	21*	68*	9*	3*

@Secondary analysis of data from Louis Harris and Associates, references 61 and 63; for full text of question see Table 8.

*Percentages based on less than 50 cases.

TABLE 44 (CONTINUED)

	July 1976			
	very safe	somewhat safe	not so safe	dangerous
Age				
less than 20	23%	45%	19%	13%
20-29	19	56	18	7
30-39	30	40	20	10
40-49	31	42	18	9
50-64	34	44	15	8
65 and over	38	34	21	8
Race				
black	12	59	19	10
Mexican-American	14*	38*	35*	14*
white	31	43	18	8
Sex				
female	20	47	22	12
male	38	41	15	6
Education				
8 years or less	23	39	26	11
9-11 years	26	48	16	11
12 years	28	50	16	6
13-15 years	31	42	19	8
16 years or more	33	39	19	9
Income				
less than $5000	23	39	27	11
$5000 - 9999	23	44	20	13
$10,000 - 14,999	27	48	15	10
$15,000 - 19,999	36	45	15	10
$20,000 - 24,999	36	40	18	5
$25,000 or more	37	47	12	4
Occupation				
professional	32	40	18	10
managers	41	40	16	3
clerical/sales	27	51	16	6
skilled	29	44	16	10
operatives/unskilled	22	48	20	10
service workers	25	52	15	8
farmers	15*	41*	35*	9*

*Percentages based on less than 50 cases.

TABLE 45. PERCENT WHO FAVOR OR OPPOSE A NUCLEAR POWER PLANT IN THEIR AREA IF IT WAS REPORTED AS UNSAFE BY GOVERNMENT REGULATION AGENCIES, IN PERCENT

	March, 1975		July, 1976	
	favor	oppose	favor	oppose
Age				
less than 20	12%	88%	9%	91%
20-29	13	87	7	93
30-39	13	87	7	93
40-49	13	87	8	92
50-64	18	82	11	89
65 and over	14	86	10	90
Race				
black	14	86	5	95
Mexican-American	5*	95*	27*	73*
white	14	86	8	92
Sex				
female	9	91	6	94
male	18	82	11	89
Education				
8 years or less	13	87	11	89
9-11 years	16	84	11	89
12 years	13	87	9	91
13-15 years	15	85	5	95
16 years or more	13	87	8	92
Income				
less than $5000	15	85	10	90
$5000 - 9999	13	87	10	90
$10,000 - 14,999	11	89	8	92
$15,000 - 19,999	16	84	8	92
$20,000 - 24,999	16	84	6	94
$25,000 or more	17	83	9	91
Occupation				
professional	12	88	7	93
managers	22	78	9	91
clerical/sales	12	88	5	95
skilled	16	84	9	91
operatives/unskilled	13	87	14	86
service workers	6	94	4	96
farmers	12*	88*	6*	94*

@Secondary analysis of data from Louis Harris and Associates, references 61 and 63; for full text of question see Table 8.

*Percentages based on less than 50 cases.

TABLE 46. PERCENT WHO FAVOR OR OPPOSE A NUCLEAR POWER PLANT IN THEIR AREA IF A SPECIAL REPORT OF SCIENTISTS SAID IT WAS SAFE, IN PERCENT@

	March, 1975		July, 1976	
	favor	oppose	favor	oppose
Age				
less than 20	80%	20%	78%	22%
20-29	82	18	79	21
30-39	85	15	74	26
40-49	89	11	78	22
50-64	86	14	84	16
65 and over	85	15	83	17
Race				
black	86	14	63	37
Mexican-American	92*	8*	66*	34*
white	84	16	80	20
Sex				
female	82	18	74	26
male	87	13	84	16
Education				
8 years or less	90	10	84	16
9-11 years	83	17	75	25
12 years	86	14	83	17
13-15 years	84	16	77	23
16 years or more	80	20	76	24
Income				
less than $5000	82	18	71	29
$5000 - 9999	84	15	78	22
$10,000 - 14,999	86	14	79	21
$15,000 - 19,999	90	10	84	16
$20,000 - 24,999	82	18	82	18
$25,000 or more	84	16	88	12

@Secondary analysis of data from Louis Harris and Associates, references 61 and 63; "If a nuclear power plant were located in this area, would you favor or oppose it if a special report of scientists said it was safe to be built and to be operated."

*Percentages based on less than 50 cases.

TABLE 46 (CONTINUED)

	March, 1975		July, 1976	
	favor	oppose	favor	oppose
Occupation				
professional	78%	22%	74%	26%
managers	90	10	87	13
clerical/sales	84	16	79	21
skilled	89	11	81	19
operatives/unskilled	82	18	75	25
service workers	79	21	83	17
farmers	92*	8*	68*	32*

*Percentages based on less than 50 cases.

TABLE 47. ACCEPTABILITY OF INCREASING THE NUMBER OF NUCLEAR GENERATORS OF ELECTRICITY IN ILLINOIS, IN PERCENT@

	Increase the number of nuclear generators for electricity		
	yes	no	no opinion
Age			
less than 20	38%	25%	38%+
20-29	46	27	26+
30-39	48	28	24
40-49	54	17	28+
50-59	49	22	29
60-69	47	24	30+
70 and over	43	24	34+
Race			
black	47	22	31
white	48	24	28
Sex			
female	39	25	35+
male	58	22	20
Education			
8 years or less	43	23	34
9-11 years	46	19	35
12 years	48	23	28
13-15 years	49	25	27+
16 years or more	32	27	20+
Income			
less than $5000	46	23	31
$5000 - 8999	41	25	34
$9000 - $14,999	45	25	30
$15,000 - 19,000	52	26	22
$20,000 - 24,999	54	20	25+
$25,000 or more	54	23	23

@Secondary analysis of data from Illinois, reference 49; "Here is a list of important issues which you and other people in Illinois might have talked about. We would like your opinion about each issue...Should the number of nuclear power generators for making electricity in Illinois be increased?

+Percentages do not add to 100% due to rounding error.

TABLE 47 (CONTINUED)

	Increase the number of nuclear generators for electricity		
	yes	no	no opinion
Occupation			
professional	51%	26%	23%
managers	63	16	20+
farmers & farm mgrs.	52	31	18+
sales workers	59	16	26+
clerical workers	41	25	34
craftsmen	54	24	23+
operatives	51	21	28
service workers	49	19	32
laborers, incl. farm	45	29	26
Residence			
50,000 or more	51	22	27
10,000 - 49,999	49	23	28
2500 - 9999	46	25	29
town less than 2500	45	25	30
open country	48	24	27+
farm	46	27	27

+Percentages do not add to 100% due to rounding error.

TABLE 48. PERCENT WHO AGREE OR DISAGREE THAT POWER PLANTS POLLUTE THE AIR@

	Agree strongly	Agree some	Disagree some	Agree strongly
Age				
less than 20	48%	30%	15%	7%
20-29	38	42	15	5
30-39	27	42	22	9
40-49	33	38	22	8+
50-64	35	41	16	7+
65 and over	34	40	20	6
Race				
black	41	43	14	2
Spanish-American	43*	40*	3*	13*+
white	34	40	19	7
Sex				
female	39	40	16	6+
male	30	40	21	8+
Education				
8 years or less	36	45	15	4
9-11 years	41	41	14	5+
12 years	34	42	17	8+
13-15 years	36	36	20	8
16 years or more	29	40	23	7+
Income				
less than $5000	39	41	15	5
$5000 - 9999	33	40	18	8+
$10,000 - 14,999	41	35	16	8
$15,000 - 19,999	26	44	23	7
$20,000 - 24,999	29	38	23	10
$25,000 or more	24	48	23	5

@Secondary analysis of data from Louis Harris and Associates, reference 64; "I would like to read you a series of statements that present different positions on some of the key issues in the environmental field. For each would you tell me if you agree strongly, agree somewhat, disagree somewhat or disagree strongly...Power plants give off an unusual amount of smoke and fumes that pollute the air."

*Percentages based on less than 50 cases.

+Percentages do not add to 100% due to rounding error.

TABLE 48 (CONTINUED)

	Agree strongly	Agree some	Disagree some	Agree strongly
Occupation				
professional	26%	41%	25%	7%+
managers	26	42	21	11
clerical/sales	34	41	18	7
skilled	39	38	15	8
operatives/unskilled	39	43	15	3
service workers	44	38	14	4
farmers	26*	46*	26*	3*+

*Percentages based on less than 50 cases.
+Percentages do not add to 100% due to rounding error.

TABLE 49. PERCENT WILLING TO REDUCE ENERGY CONSUMPTION IN SELECTED WAYS IN KENTUCKY@

	Turn down heat	Not use air conditioning	Live in small house
Age			
less than 20	87%	58%	65%
20-29	84	56	64
30-39	87	53	54
40-49	86	56	58
50-59	89	53	71
60-69	86	54	73
70 and over	84	48	79
Race			
black	76	48	76
white	87	55	64
Sex			
female	86	53	64
male	86	56	64
Education			
8 years or less	82	60	70
9-11 years	86	56	72
12 years	86	54	62
13-15 years	89	50	60
16 years or more	92	53	59
Income			
less than $5000	81	59	76
$5000 - $8999	86	60	71
$9000 - $14,999	87	54	62
$15,000 - $19,999	91	48	57
$20,000 - $24,999	90	49	52
$25,000 or more	89	43	42

@Secondary analysis of data from Kentucky, reference 52; for full text of question see Table 9.

TABLE 49 (CONTINUED)

	Turn down heat	Not use air conditioning	Live in small house
Occupation			
professional	90%	51%	66%
managers	89	50	51
sales workers	90	44	64
clerical worker	90	56	71
craftsmen	85	57	61
operatives	86	56	60
laborers	78	55	65
farmers, farm managers, laborers	86	63	67
service workers	87	55	68
Residence			
Northern Ky. metro area	83	67	71
Louisville metro area	86	41	63
Lexington metro area	90	54	60
10,000 - 49,999	86	44	66
2500 - 9999	87	55	64
town less than 2500	82	57	68
open country	87	62	62
farm	86	64	62

TABLE 50. WILLINGNESS TO REDUCE AIR POLLUTION BY TURNING OFF ELECTRICITY 5 HOURS A DAY OR PAYING $30 MORE A YEAR, IN PERCENT@

	Turn off electricity	Pay $30 more per year	Other
Age			
less than 30	62%	36%	2%
30-39	43	49	8
40-49	37	61	2
50-59	39	54	6+
60 and over	52	37	11
Race			
black	41*	52*	7*
white	50	44	5+
Sex			
female	53	43	3+
male	44	48	8+
Education			
less than 9 years	50*	41*	10*+
9-11 years	44*	55*	1*
12 years	47	48	5
more than 12 years	56	39	5
Income			
less than $7000	52	39	9
$7000 to $9999	56	42	3+
$10,000 to $14,999	48	50	2
$15,000 to $19,999	43	50	7
$20,000 and over	37	60	2+
Occupation			
white collar	50	46	3+
blue collar	53	43	4
farmer	53*	44*	4*+
not employed	42	48	10
other	50	46	4

@Secondary analysis of data from FEA, reference 59; for full text of question see Table 9.
*Percentages based on less than 50 cases.
+Percentages do not add to 100% due to rounding error.

TABLE 50 (CONTINUED)

	Turn off electricity	Pay $30 more per year	Other
Residence			
city	48%	45%	7%
suburb	49	45	5+
small town	52	44	5+
rural area	44	51	5

+Percentages do not add to 100% due to rounding error.

TABLE 51. RATING OF ALLOWING THE MASS OF PEOPLE TO SHARE A HIGH STANDARD OF LIVING AS A FACTOR IN MAKING AMERICA GREAT, IN PERCENT@

	Major factor	Minor factor	Hardly at all
Age			
less than 20	64%	28%	8%
20-29	62	30	7
30-39	70	25	5
40-49	74	19	7
50-64	73	22	5
65 and over	80	18	2
Race			
black	70	22	8
Spanish-American	79	14	7
white	70	24	6
Sex			
female	70	25	5
male	72	22	7
Education			
8 years or less	65	25	9
9-11 years	67	28	5
12 years	73	22	5
13-15 years	70	24	6
16 years or more	75	20	5
Income			
less than $5000	72	21	7
$5000 - 9999	70	22	8
$10,000 - 14,999	71	25	4
$15,000 - 19,999	68	28	5
$20,000 - 24,999	74	22	3
$25,000 or more	73	23	4
Occupation			
professional	69	26	4
managers	82	15	3
clerical/sales	75	18	7
skilled	64	29	6
operatives/unskilled	64	29	7
service workers	69	24	8
farmers	75	20	5

@Secondary analysis of data from Louis Harris and Associates, reference 62; for full text of question see Table 9.

TABLE 52. PERCENT WHO WOULD LIKE TO SEE THE UNITED STATES BECOME INDEPENDENT OF ALL FOREIGN SOURCES OF ENERGY@

	March, 1975	July, 1976
Age		
less than 20	76%	80%
20-29	76	78
30-39	85	84
40-49	89	86
50-64	87	88
65 and over	88	87
Race		
black	88	80
Mexican-American	65*	80*
white	84	84
Sex		
female	84	84
male	83	84
Education		
8 years or less	86	91
9-11 years	87	85
12 years	86	84
13-15 years	80	86
16 years or more	77	79
Income		
less than $5000	88	85
$5000 - 9999	79	83
$10,000 - 14,999	84	83
$15,000 - 19,999	85	84
$20,000 - 24,999	86	83
$25,000 or more	77	92
Occupation		
professional	80	80
managers	80	88
clerical/sales	86	80
skilled	86	88
operatives/unskilled	83	87
service workers	91	81
farmers	77*	77

@Secondary analysis of data from Louis Harris and Associates, references 61 and 63; for full text of question see Table 10.

*Percentages based on less than 50 cases.

TABLE 53. ACCEPTABILITY OF IMPORTING MORE OIL FROM FOREIGN COUNTRIES, IN PERCENT@

	August 4-16, 1975			
	strongly favor	mildly favor	mildly oppose	strongly oppose
Age				
less than 30	19%	23%	28%	31%+
30-39	18	22	20	41+
40-49	16	18	30	35+
50-59	8	21	26	45
60 and over	27	14	26	33
Race				
black	42*	22*	10*	27*+
white	15	19	28	37+
Sex				
female	18	24	26	32
male	18	15	26	42+
Education				
less than 9 years	32*	25*	12*	30*+
9-11 years	24	18	30	27+
12 years	14	20	28	38
more than 12 years	11	15	32	42
Income				
less than $7000	24	21	29	27+
$7000 to $9999	9	19	25	47
$10,000 to $14,999	17	21	25	37
$15,000 to $19,999	15	13	26	46
$20,000 and over	12	23	29	36

@Secondary analysis of data from FEA, reference 59; "There have been many suggestions made for improving the energy situation. As I read these suggestions, please tell me if you strongly favor it, mildly favor it, mildly oppose it, or strongly oppose it...More oil should be imported from foreign countries."

*Percentages based on less than 50 cases.

+Percentages do not add to 100% due to rounding error.

TABLE 53 (CONTINUED)

	August 4-16, 1975			
	strongly favor	mildly favor	mildly oppose	strongly oppose
Occupation				
white collar	14%	17%	32%	38+
blue collar	18	20	20	43+
farmer	36*	26*	29*	9*
not employed	20	23	23	34
other	22*	14*	41*	23*
Residence				
city	20	26	20	35+
suburb	8	17	39	36
small town	19	15	29	38+
rural area	17	20	21	42

	August 19-29, 1975			
	strongly favor	mildly favor	mildly oppose	strongly oppose
Age				
less than 30	11%	31%	21%	36+
30-39	13	26	18	43
40-49	10	33	18	37+
50-59	16	21	33	29+
60 and over	17	26	23	34
Race				
black	28*	34*	4*	35*+
white	12	28	24	36
Sex				
female	16	35	24	25
male	11	21	21	47
Education				
less than 9 years	16*	39*	12*	32*+
9-11 years	14	23	28	34+
12 years	16	26	23	35
more than 12 years	7	26	27	41+

*Percentages based on less than 50 cases.

+Percentages do not add to 100% due to rounding error.

TABLE 53 (CONTINUED)

	August 19-29, 1975			
	strongly favor	mildly favor	mildly oppose	strongly oppose
Income				
less than $7000	13%	28%	22%	38+
$7000 to $9999	16	30	22	32
$10,000 to $14,999	21	24	25	31+
$15,000 to $19,999	9	32	18	41
$20,000 and over	5	30	25	40
Occupation				
white collar	13	30	19	38
blue collar	11	25	21	43
farmer	30*	35*	24*	10*+
not employed	14	31	25	30
other	12*	21*	32*	36*+
Residence				
city	16	24	22	38
suburb	6	27	29	38
small town	14	38	16	32
rural area	20	22	24	34

*Percentages based on less than 50 cases.
+Percentages do not add to 100% due to rounding error.

TABLE 54. PERCENT WHO FAVOR OR OPPOSE A NUCLEAR POWER PLANT IN THEIR AREA IF IT WOULD MEAN NEW INDUSTRY AND MORE JOBS@

	March, 1975		July, 1976	
	favor	oppose	favor	oppose
Age				
less than 20	79%	21%	76%	24%
20-29	79	21	73	27
30-39	79	21	72	28
40-49	84	16	74	26
50-64	84	16	78	22
65 and over	85	15	83	17
Race				
black	88	12	82	18
Mexican-American	95*	5*	68*	32*
white	80	20	75	25
Sex				
female	78	22	70	30
male	84	16	81	19
Education				
8 years or less	90	10	81	19
9-11 years	83	17	78	22
12 years	83	17	80	20
13-15 years	77	23	74	26
16 years or more	73	27	67	33
Income				
less than $5000	82	18	74	26
$50-0 - 9999	84	16	76	24
$10,000 - 14,999	83	17	72	28
$15,000 - 19,999	81	19	79	21
$20,000 - 24,999	75	25	76	24
$25,000 or more	79	21	83	17
Occupation				
professional	72	28	66	34
managers	85	15	83	17
clerical/sales	76	24	75	25
skilled	86	14	79	21
operatives/unskilled	84	16	73	27
service workers	77	23	86	14
farmers	82*	18*	76*	24*

@Secondary analysis of data from Louis Harris and Associates, references 61 and 63; for full text of question see Table 11.

*Percentages based on less than 50 cases.

CHAPTER 5

CONCLUSIONS

This study has looked at major or "dominant" social values as they relate to energy policy, focusing on the six-state Ohio River Basin Energy Study (ORBES) region. The social values that have been examined were selected through a two-step process. First, an examination of the literature on social values produced a list of 17 values which are often described as being important in American society. Seven of the ORBES alternative future scenarios were then examined to identify the values inherent in their scenario assumptions and policy statements. Social surveys for the states in the ORBES region and the nation were then examined for indicators of these values. The findings were presented, including an examination of social and demographic variables which could be sources of variation in the values.

GENERAL PATTERNS OF SOCIAL VALUES

One of the characteristics of major social values is that they should be extensively held. All of the values examined here were held by a majority of respondents on some of the indicators of the value. This suggests that all of the values are indeed considered to be important. This is not particularly surprising when each of the values is asked about separately.

This same finding appears quite consistently, however, in those questions which involved a choice, or "tradeoff," between values. For example, health and safety is a value endorsed by a substantial majority of persons on several indicators. Economic benefit and progress/growth also are strongly held values. However, majorities indicated (a) they were willing to trade off some economic benefit for health/safety, for example in the form of $30 per year to reduce air pollution; (b) they were not willing to pay $200 more a year (economic benefit) to make a small reduction in illness caused by air pollution; and (c) although they favored progress/growth through new industries, they did not favor them if they caused more air pollution, a threat to health/safety.

Not only are each of the values important, none of them appears as dominant over all others. This is indicated by the example in the preceding paragraph. Additionally, economic benefit is generally "valued," that is, people prefer to increase their economic opportunities and minimize costs. Progress/growth also appears to be supported because of its relationship to economic benefit. However, these values do not consistently dominate others. New industry is not favored if it increases air pollution. A majority thought it was more important to pay higher prices to protect the environment than pay lower prices and have air pollution. Equity, which implies some economic costs to achieve re-distribution, is supported also according to the indicators examined here. Similarly conservation/preservation is an important value; people support the value of governmental activity and are willing to bear some costs to achieve it in several instances. However, they tend to be divided on conservation/preservation when personal freedom, material comfort or economic benefit is seriously threatened.

There is some variation in how strongly these social values are held across social and demographic variables. In many cases the variation was only in the size of the majority expressing a particular value. For example, majorities of all categories of people felt health/safety were important, but higher percentages of lower status persons than of higher status persons felt it very important. There were, however, some instances where there were sharper differences brought out by a social or demographic variable. This occurred fairly often with age. For example, the majority of those less than fifty years of age favor strict strip mining laws over coal at the cheapest cost; the majority of those over fifty favor cheap coal.

Older persons were generally more opposed to additional costs and more in favor of equity than were younger persons. Persons over sixty or sixty-five are more likely to have fixed, or relatively fixed, incomes. Thus, the importance of economic benefit in the form of minimizing or stabilizing costs of electricity appear particularly important to these people. They are more inclined than younger people in many instances to choose economic benefit over health/safety and conservation/preservation. Similarly, they were more likely to emphasize equity, which would benefit them through policies for assisting low income people with energy costs. Older persons also more often favored progress/growth, particularly through new industry and jobs coming into their area.

Social class was quite consistently related to equity. Those with less education, less income and lower status occupations were substantially more likely to favor equity than others were. Although there were limited data, the differences for education and income were relatively large compared to many in this study, often around 20 percent.

Social class was also related to freedom/governmental activity, but not as consistently. Those with at least some college education were more likely to choose, or see as necessary, governmental action over voluntary action for achieving some energy policy objectives, such as reducing energy use and the importance of environmental regulations. Except for farmers, occupation and income did not produce a consistent pattern. Although the number of farmers in many studies was small, there was a quite consistent pattern that showed farmers prefer voluntary action over governmental action more than others. For example, they particularly opposed governmental regulations to reduce energy consumption; and although they were the only occupational category in which less than half said it was very important to slow down the use of oil and gas, the percentage of farmers who opposed tax incentives to oil companies to increase production was much higher than any other occupational category. That is, they opposed governmental action to assist companies to increase production of energy.

Blacks tended to differ from whites on two values, equity and freedom/governmental activity. Blacks favored equity more than whites, although the difference was small. Blacks also usually favored governmental activity more than whites. This was particularly true with regard to government taking over or creating energy industries. However, blacks were more likely to favor tax incentives to oil companies and to make exceptions to environmental regulations rather than close plants. Other ethnic minorities were represented in quite small numbers, and they did not appear to show a consistently different or distinct pattern on any of these values. However, both the approach and data used for this study, by focusing on broad patterns, would not be sensitive to variations that might exist among small percentages of the population.

Women were more concerned about health/safety than men. The differences often were small. only a few percent, but they were consistent. The largest difference was on how safe they perceive nuclear power to be. About twice as many men (40 percent) compared to women (20 percent) see it as very safe. This difference between men and women on favoring nuclear power occurs in the Illinois and Kentucky data as well as the national data. Although the differences are small, women consistently indicated a greater concern for health/safety with regard to curbing air and water pollution, working conditions and product safety.

Comparisons among states in the ORBES region and between the region and the nation are limited by the data available. There are only a few instances in which relatively similar questions were asked.

Generally there seem to be many similarities in values as applied to energy policy between the ORBES states and the nation. Majorities in both state and national studies favor fuel conservation and achieving energy independence. There is relative agreement on preferred household conservation practices. The majority of people favor the development of new energy sources, including nuclear power. There is concern about the health/safety aspects of nuclear power, with women more likely to express this in state and national studies. Older persons are more likely to favor governmental action for progress and growth. And farmers' preference for voluntarism over governmental action is seen in both state and national studies.

There were some differences between state and national data, however. For example, a majority of Ohio residents opposed deregulation of prices, while nationally a majority favored it. In Illinois residents were over twice as likely to report having improved home insulation, and also to be using electrical appliances less. Nationally there was little difference by age in who was insulating more or using appliances less. However, in Illinois older persons reported using these means to conserve more often than younger persons. There was some indication that more educated persons in Illinois and Kentucky were more likely to have lowered their thermostat setting in winter, in contrast to the national data where more educated persons were less likely to have done so.

IMPLICATIONS FOR THE ORBES SCENARIOS

In order to study the potential impact of energy development on the Ohio River area, a series of alternative possible scenarios was developed. These alternative scenarios emphasized various combinations of fuel sources, environmental regulations and rates of economic growth. A set of policies was specified for each scenario which were assumed to be consistent with its basic descriptive characteristics. The values inherent in seven of the scenarios, which differed substantively in their descriptors, were then identified. It is these scenarios and the values inherent in them, as shown in Table 3, that is the focus here. This analysis emphasizes qualitative differences in values among the scenarios, and does not attempt to make estimates of quantitative differences among the scenarios nor to rank the importance of the values themselves.

Each of the scenarios contains various policies based on a number of social values. This relatively simple observation appears to be of fundamental importance given that all values were found to have substantial support, and none appeared to dominate all others, in the data examined in this study. Because energy is important to so many aspects of contemporary life style, it is not surprising that many values impinge upon it. This implies that future energy policies must take several values into account, and seek to achieve a balance among them. Further, attempts to maximize any one value in energy policy, whether it is economic benefit or health and safety, would not be likely to obtain broad public support.

Some of the values appear in all or most of the scenarios. These are economic benefit, governmental activity, nationalism and progress/growth. Many people interpret increased domestic energy supplies positively in terms of economic benefit and progress/growth as long as there are not substantial negative aspects associated with this. Also, increased domestic energy is consistent with nationalism by reducing dependence on foreign supplies of energy. Negative aspects could include increased costs (the negative side of economic benefit) for energy, the nature of governmental activity and impacts on other values. Increasing supplies of energy appears to be favored when it helps stabilize the cost. Modest increases in costs for energy are generally acceptable when they contribute to other values such as health and safety.

Governmental activity to increase energy supplies is acceptable when it provides benefits rather directly to people, such as through new industry and jobs in their area, or tax incentives for reducing energy consumption. Governmental activity in the form of policies that are restrictive or costly to individuals are opposed; those that provide direct benefits to industry produce a very divided response. Although equity does not appear in any of the scenarios, it appears to be important in American society, for instance through assisting lower income people with energy costs. Equity may also be a factor in the opposition to assisting industries develop new sources of energy, if there is a feeling that the benefits from that development will not be appropriately distributed to society. In essence, governmental activity as public policy should be equitable.

A number of values only appear in one or a few scenarios. Health and safety is emphasized in Scenario 1 more than any other scenario, for example. This emphasis is the result of strict environmental regulations. There is strong support for energy related policies that stress health and safety. Furthermore, there is concern about the health and safety aspects of energy facilities. This concern appears to be strong enough that future energy policy must clearly specify how health and safety aspects of energy facilities are to be dealt with. At the same time, there are limits to the importance of health and safety, as with other values. This is particularly the case in regard to costs, with moderate costs being acceptable to a majority of people but higher costs not being acceptable.

Conservation/preservation is emphasized in three scenarios, in one through increasing use of alternative energy technologies that would conserve fossil fuels, in another through a low economic growth rate requiring less energy, and third through a scenario that has high economic growth but low energy growth primarily through policies for increasing efficiency. There is strong support for policies to conserve energy resources, particularly oil and gas. There is also support for reducing pollution. A substantial majority favor governmental policies regulating industry's behavior in the use of energy, but not for regulating individual's use of energy. The majority view is that people should retain more freedom than industries in how they use energy, but that people should voluntarily conserve energy. People also favor policies that provide incentives for conservation, such as tax rebates. The majority oppose increasing the cost of energy through special taxes as a means to discourage energy use. Governmental activity to achieve conservation is not opposed per se; it depends on the particular policy whether it is supported or opposed.

Material comfort is important in four of the scenarios. While material comfort is valued, there are indications that people are willing to reduce energy consumption to some extent in ways that would affect that comfort. One reason for reducing energy use is to reduce costs. The preference is for individuals to retain options on how they will make those reductions in energy use. It appears that many people are at least somewhat willing to make moderate reductions in material comfort; that is consistent with the values of conservation/preservation and economic benefit.

Science appears in two scenarios. It is an instrumental value, particularly in regard to energy policy. That is, science (and technology) is a means to develop new energy sources, to increase efficiency, and to reduce pollution. Thus, it appears in the scenarios involving nuclear energy and alternative technology where new technology is still developing. Science is seen as an important factor in American society. It is a means by which more energy or new sources of energy can be obtained, and pollution reduced. At the same time, concerns about some negative consequences of science suggest that energy development policies must look beyond the immediate gains of scientific developments to thoroughly consider the unintended negative consequences that might occur.

There will be continuing interactions between these social values, energy policies and energy use. Values shape policies which affect the use of energy, with people reacting to the availability of energy and the consequences of energy use in terms of their values. Various people and organizations will attempt in the future, as they have in the past, to influence energy policy by defining issues in terms of certain values, and mobilizing support for those values. That is the nature of the political process. This study indicates that for the public at large no one value dominates in their view, and that energy policy must incorporate and balance a number of social values. Major transitions in either level of consumption or energy sources need to occur slowly enough to maintain this balance, or risk a strong public reaction when values come into conflict.

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APPENDIX A

BRIEF DESCRIPTION OF SURVEYS USED FOR SECONDARY DATA ANALYSIS

All surveys used for secondary analysis of data in this study used some type of stratified probability sampling design. Both of the national data sets, by Louis Harris and Associates and by Opinion Research Corporation for the Federal Energy Administration (FEA), use geographic location and population as major variables in stratification. They are stratified area probability samples. The two state surveys for Illinois and Kentucky used essentially the same procedures. They are stratified on age and sex for each county in the state, with sample size proportional to population size in each county. The dates and completed sample sizes are shown in Table A-1.

The analysis of the FEA data, including the percentages shown in tables, are based on weighted data to correct for representation error, using respondents' age, sex, race, income and education in the weight variable. Some percentages in the tables are marked with an *, with the note that the percentage was based on less than 50 cases. This means their were fewer than 50 total unweighted cases for that social/demographic variable category.

The FEA data were collected by telephone interviews. The Harris data were gathered by personal interviews. In Illinois and Kentucky mailed questionnaires were used. The return rate for usable completed questionnaires was 72 percent in Kentucky and 55 percent in Illinois. Comparable figures are not available for the Harris and FEA surveys.

TABLE A-1. DATES AND SAMPLE SIZES FOR SURVEYS USED IN SECONDARY ANALYSES OF DATA

Survey organization	Survey No.	Survey date	Sample Size
Federal Energy Administration (national)	7	October 13-26, 1974	613
	8	October 27-November 9, 1974	611
	9	November 10-23, 1974	604
	10	November 24-December 14, 1974	603
	11	December 15-28, 1974	602
	21	August 4-16, 1975	516
	22	August 15-19, 1975	511
	23	August 19-29, 1975	504
	35	March, 1976	601
	36	April, 1976	602
Harris (national)	2413	February, 1974	1665
	2515	March, 1975	1537
	7586	October, 1975	1522
	2628	July, 1976	1497
	7687	September, 1976	1539
University of Illinois	--	January-March, 1978	2807*
University of Kentucky	--	August-October, 1975	3428

*This is the sample size within the ORBES study area of Illinois.

GLOSSARY

activity and work--stress upon activity, business; directed and disciplined activity in a regular occupation; work as an end in itself (33).

aesthetics--the need for aesthetically pleasing surroundings, natural beauty (27); a world of beauty (21).

conservation, preservation--preservation of important natural and cultural characteristics, the preservation of particular scenic vistas (27).

democracy--stress on majority rule, representative institutions, rejection of the monarchical and aristocratic principles under which the society began, reservation of certain "inalienable rights" as unalterable by majority rule (33); responsibility of government to a majority and simultaneous protection of minority rights, concept has diffused to other areas of community living (32).

economic benefit--tendency to evaluate things and people in monetary terms, originally "pecuniary evaluation" (32).

efficiency and practicality--emphasis on adaptability, technological innovation, economic expansion, up-to-dateness, practicality, expendiency, "getting things done" (33); emphasis on "Will it work?" "Is it practical?" (32); do better with the energy we have, conserve or substitute energy resources, utilize technical fixes (39).

equality--emphasis on equality of opportunity (rather than equality of condition) (33).

equity--degree of fairness and social justice associated with distributions (the poor pay at a higher rate than the affluent and higher energy prices take away a larger share of the income of the poor than of others) (41).

freedom--emphasis on behavior that is not subject to restraints that are in some sense external and arbitrary, the equating of "freedom" with control by diffuse cultural structure rather than by a definite social organization (33); implies large areas of choice be left open to the individual regarding how to think, feel, behav (32).

governmental activity--activity or regulation are appropriate governmental activity, federal, state, and local, increasing governmental intervention is necessary and desirable (32).

health and safety--high priority to citizen's health, possibly giving attention to preventive medicine, devoting a high proportion of material and human resources of ensuring good health for as many people as possible (34); need for healthful surroundings, need for safe surroundings, lacking risk (27).

material comfort--orientation toward the acquisition of things, self-esteem linked with material wealth (34); material comfort--epitomized by passive gratification, the American standard of living (33).

moral orientation--think in terms of right or wrong, good or bad, ethical or unethical, test conduct against some systematic ethical principles (33).

nationalism-patriotism--emphasis on loyalty, allegiance, the idea that the American way of life is so morally superior that it should be widely adopted elsewhere (33).

progress--an emphasis upon the future rather than the past or present, receptivity to change, faith in the perfectibility of the common man (33); belief things in general can be made better as well as things *should* be made better (32).

science and secular rationality--emphasis on controlling nature, interest in order, control, and calculability, method of approaching problems is to translate experience into systematic abstract concepts; create, predict, control, essential defining characteristics are honesty and clarity (33); growing confidence in a rational attempt to understand the world (32).